

Index to ASME Transactions

Volume 77, 1955

The ASME Transactions for 1955 was issued in January, February, April, May, July, August, October, and November, 1955.
The Society Records for the year 1954 appeared as supplements, two in February, 1955, and the index section in January, 1955. The page numbers for these supplements are designated by the symbol SR, and the February supplement contains its own index.
(AC) denotes author's closure; (BR) book review; (D) discussion of a paper.

A

ACOUSTICS	
High-frequency oscillations of a flame held by a bluff body.....	885
Suppression of burner oscillations by acoustical dampers.....	875
ACTUATORS. See SERVOMECHANISMS	
ADAMS, H. W.	
Temperature problems of equipment in high-speed aircraft.....	735
ADAMS, R. C.	
Hydrazine for boiler-feedwater treatment (D).....	871
ADDITIVES. See OIL FUEL	
AERODYNAMIC HEATING. See HEAT TRANSFER	
AIR HEATERS	
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases.....	279
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units.....	267
AIR POLLUTION. See also CHIMNEYS	
Important considerations in the use of the wind tunnel for pollution studies of power plants.....	789
AIRPLANE ENGINES	
Combustion-efficiency problem of the turbojet at high altitude.....	605
Effect of supersonic flight on power-plant installation systems.....	721
Introduction to the thermal problems of turbojet engines for supersonic propulsion.....	715
AIRPLANE FUEL SYSTEMS	
Effect of supersonic flight on power-plant installation systems.....	721
AIRPLANES	
Personnel and equipment cooling in supersonic airplanes.....	741
Problems in the design of aircraft subjected to high temperature.....	773
Some structural aspects of thermal flight.....	765
Temperature problems of equipment in high-speed aircraft.....	735
The thermal barrier—structures.....	759
ALMANZA, SALVADOR	
The San Bartolo vertical impulse turbine.....	523
ALUMINUM. See also METAL DRAWING	
Stresses and strains in cold-extruding 2S-O aluminum.....	1343
AMINES. See FEEDWATER TREATMENT	
AMOROSI, ALFRED	
Thermal design of nuclear power reactors (D).....	673
ANALOGY. See ELECTRIC ANALOGY	
ANDREWS, L. C.	
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping (D).....	157
ARGUE, F. W.	
Manpower and other factors affecting operating costs in steam generating stations (D).....	360
ARNOW, S. M.	
Economics of large reheat turbine-exhaust-end size selection (D).....	371
ARONSON, DAVID	
Pin-fin heat-exchanger surfaces (D).....	478
ASH. See OIL FUEL	
ASSEMBLY LINES. See MANUFACTURING	
AUBLE, CARROLL M.	
High-frequency oscillations of a flame held by a bluff body (D).....	892
AUTOMATIC CONTROL	
Dynamics of filled temperature-measuring systems.....	591
Predictor control optimizes control-system performance.....	1317

ISSUE	PAGE NUMBERS
January	1-96
February	97-248
April	249-400
May	401-596
July	597-788
August	789-980
October	981-1172
November	1173-1396

AVIATION	
Human problems associated with high-speed and high-altitude flight.....	747

B

BAGASSE. See FUELS	
BAIRD, R. C.	
Wind-induced vibration of a pipe-line suspension bridge, and its cure.....	797
BAKER, M. D.	
Hydrazine for boiler-feedwater treatment (D).....	872
BARKLEY, J. F.	
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units (D).....	274
BARON, S.	
Economic determination of condenser and turbine-exhaust sizes (D).....	381
BARTELS, JEROME	
Performance of the periphery pump (D).....	23
Thermodynamics of supercritical-pressure steam-power plants.....	705
BARTH, V. C.	
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance (D).....	389
BARTS, D. R.	
Approximate solution of compressible turbulent boundary-layer development and convective heat transfer in convergent-divergent nozzles.....	1235
BARWELL, F. T.	
The short bearing approximation for plain journal bearings (D).....	1178
BAUDRY, R. A.	
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads (D).....	329
BEARINGS	
Applying bearing theory to the analysis and design of pad-type bearings.....	287
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance.....	385
Hydrodynamic pocket bearing.....	311
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads.....	321
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure.....	33
IX. The stepped slider with adiabatic lubricant flow.....	1185
The short bearing approximation for plain journal bearings.....	1173
Studies in lubrication—X. The complete journal bearing with circumferential oil inlet.....	1179
Through-flow in concentric and eccentric annuli of fine clearance with and without relative motion of the boundaries.....	1291

BEATON, J. L.	
Determination of residual stresses in hardened, ground steel (D).....	1104
BEGEMAN, M. L.	
Influence of tap-drill size and length of engagement upon the strength of tapped holes (D).....	905
BERGELIN, O. P.	
Heat transfer and pressure drop for viscous-turbulent flow of oil-air mixtures in a horizontal pipe (D).....	1263
BERGMAN, D. J.	
Design of vertical pressure vessels subjected to applied forces (D).....	867
BERGMAN, E. O.	
Design of vertical pressure vessels subjected to applied forces.....	863
BERR, A. A.	
Corrosion of steel in boilers—Attack by dissolved oxygen (D).....	441
Experimental boiler studies of the breakdown of amines (D).....	452
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units (D).....	275
BILJAARD, P. P.	
Stresses from local loadings in cylindrical pressure vessels.....	805
BLACK, H. M.	
Determination of the thermal conductivity of molten lithium (D).....	101
BLACKSHEAR, P. L., JR.	
High-frequency oscillations of a flame held by a bluff body (D).....	891
Suppression of burner oscillations by acoustical dampers (D).....	881
BLADES. See STEAM TURBINES	
BLOK, H.	
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure (D).....	35
Shear-plane temperature distribution in orthogonal cutting (D).....	1336
Temperature distribution at the tool-chip interface in metal cutting (D).....	1119
BOHNET, W. J.	
Fanning friction factors for air flow at low absolute pressures in cylindrical pipes.....	683
BOILER CORROSION	
Action of boiler water on steel—attack by bonded oxygen.....	423
Corrosion of steel in boilers—attack by dissolved oxygen.....	433
BOILERS. See also FEEDWATER TREATMENT	
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston refinery.....	927
Principles of boiler design for high steam temperatures.....	919
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units.....	267
BOILING. See also EVAPORATION	
BONI, FRANK	
Working-stress criteria for nuclear power plants (D).....	665
BONILLA, C. F.	
Kinetic theory of evaporation rates of liquids (D).....	219
BOONSHAFT, J. C.	
Measurement errors—classification and interpretation.....	409
BOŠNJKOVIĆ, F.	
Kinetic theory of evaporation rates of liquids (D).....	219
BOSTON, O. W.	
Cutter design and application for face-milling cast iron and steel.....	1123
Machinability research with J&L tool dynamometer on titanium 150A (D).....	77
On the drilling of metals—I. Basic mechanics of the process (D).....	111
BOUNDARY LAYER. See FLOW OF FLUIDS	

- BOWERS, C. N.**
Resistance of tubular materials to sulphide-corrosion cracking (D)..... 823
- BOYD, JOHN**
Applying bearing theory to the analysis and design of pad-type bearings..... 287
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads..... 321
- BRANDES, E. A.**
Measurement of total emissivities of gas-turbine combustor materials (D)..... 1196
- BRANDMAIER, H. E.**
Through-flow in concentric and eccentric annuli of fine clearance with and without relative motion of the boundaries (D)..... 1299
- BRIDGES.** See PIPE LINES
- BROCK, JOHN E.**
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping (D)..... 158
Piping-flexibility analysis (D)..... 143
- BROUGHTEN, J. L.**
Possibilities of burning lower-cost diesel fuels (D)..... 1391
- BUCKLAND, B. O.**
Modified residual fuel for gas turbines... 1199
- BUCKNER, H. A., JR.**
Application of high-speed strain-gage torque-meter to turbomachinery research..... 597
- BURGESS, V. B.**
Hydrazine for boiler-feedwater treatment (D)..... 872
- BURKE, EDWARD**
Novel cooling method for gas turbines... 187
- BURNERS**
High-frequency oscillations of a flame held by a bluff body..... 885
Suppression of burner oscillations by acoustical dampers..... 875
- BURWELL, J. T., JR.**
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance (D)..... 389
- C**
- CARRERA, JOSE M.**
Grinding capacities of cane-sugar mills... 485
- CAMPBELL, O. F.**
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery 927
- CAVITATION**
Mechanism of cavitation inception and the related scale-effects problem..... 533
On the mechanism of cavitation damage. Recent investigations of the mechanics of cavitation and cavitation damage... 1045
- CERAMICS.** See HIGH-TEMPERATURE MATERIALS
- CHAO, B. T.**
Interaction of friction and temperature at the chip-tool interface in metal machining (D)..... 698
Shear stress in metal cutting (D)..... 123
Temperature distribution at the tool-chip interface in metal cutting..... 1107
- CHAPLIN, F. S.**
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure (D)... 36
- CHARBONNEAU, H. C.**
Application of statistics to simple fixed-gage design..... 949
- CHARNES, A.**
On the solution of the Reynolds equation for sliding-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure... 33
IX. The stepped slider with adiabatic lubricant flow..... 1185
Studies in lubrication—X. The complete journal bearing with circumferential oil inlet..... 1179
- CHERVENKA, C. C.**
Influence of tap-drill size and length of engagement upon the strength of tapped holes (D)..... 905
- CHILDS, J. H.**
Combustion-efficiency problem of the turbojet at high altitude..... 605
- CHILTON, E. G.**
Pulsating-flow measurement—a literature survey..... 231
Pulsation absorbers for reciprocating pumps..... 225
- CHIMNEYS**
Design of chimneys to control down-wash of gases..... 1
Stack heights required to minimize ground concentrations..... 1163
- CHIPS AND CHIP FORMATION.** See METAL CUTTING
- CHRISTENSON, A. L.**
Residual grinding stresses in hardened steel (D)..... 1095
- CLUTCHES**
Design of the expanding-shoe friction clutch..... 907
- COHEN, M. J.**
Design of the expanding-shoe friction clutch..... 907
- COIT, R. L.**
Measurement of total emissivities of gas-turbine combustor materials..... 1189
- COLWELL, L. V.**
Determination of residual stresses in hardened ground steel..... 1099
On the drilling of metals—1. Basic mechanics of the process (D)..... 111
- COMBUSTION.** See also OIL FUEL
Combustion-efficiency problem of the turbojet at high altitude..... 605
Transient gas-flame temperatures in a spherical bomb..... 89
- COMPRESSIBILITY.** See GASES
- COMPRESSORS**
Compressor surge and stall propagation... 455
- CONDENSATION**
Kinetic theory of evaporation rates of liquids..... 211
- CONDENSERS.** See STEAM CONDENSERS
- CONRAD, J. D.**
Steam-piping design to minimize creep concentrations (D)..... 1161
- CONTROL.** See REMOTE CONTROL
- CONVEYERS.** See MATERIALS HANDLING
- COOK, J. A.**
Influence of tap-drill size and length of engagement upon the strength of tapped holes..... 897
- COOLING SYSTEMS**
Effect of supersonic flight on power-plant installation systems..... 721
Novel cooling method for gas turbines... 187
Personnel and equipment cooling in supersonic airplanes..... 741
Temperature problems of equipment in high-speed aircraft..... 735
- CORROSION.** See also BOILER CORROSION
Evaluation of corrosion resistance for gas-turbine-blade materials..... 985
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases..... 279
Influence of some chemical and physical factors on the formation of deposits from residual fuels..... 995
Modified residual fuel for gas turbines... 1199
Resistance of tubular materials to sulphide-corrosion cracking..... 817
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units..... 267
- COST ANALYSIS**
Manpower and other factors affecting operating costs in steam generating stations..... 343
- COYKENDALL, L. H.**
Bagasse-burning in the Mexican sugar industry (D)..... 558
- CRANE, E. V.**
Contribution to the knowledge of pressure measurements during metal deformation (D)..... 512
- CREDE, C. E.**
Effect of pulse shape on simple systems under impulsive loading..... 957
- CREEP OF MATERIALS.** See also METAL CREEP
- CRUSHING AND GRINDING**
Grinding capacities of cane-sugar mills... 485
- D**
- DAMPING.** See VIBRATION
- DAVIDSON, H. O.**
Assembly-line balancing problem (D)... 947
- DAVIDSON, W. F.**
Important considerations in the use of the wind tunnel for pollution studies of power plants (D)..... 794
- DAVIES, D. K.**
Working-stress criteria for nuclear power plants (D)..... 665
- DEAN, R. C., JR.**
Secondary flow in axial-flow turbomachinery (D)..... 1075
Visualization studies of secondary flows with applications to turbomachines (D)..... 262
- DEARDO, A. J.**
Observations on some factors affecting Timken data for EP lubricants..... 29
- DE CORSO, S. M.**
Measurement of total emissivities of gas-turbine combustor materials..... 1189
- DEFORMATION.** See also METAL DRAWING, METAL EXTRUSION
Safe stress range for deformation due to fatigue..... 631
- DE HALLER, P.**
Free-piston-and-turbine compound engine—a cycle analysis (D)..... 208
- DEISSLER, R. G.**
Experimental determination of the thermal-entrance length for the flow of water and of oil in circular pipes (D)... 1218
Turbulent heat transfer and friction in the entrance regions of smooth passages..... 1221
- DE JONGE, A. E. RICHARD**
Approximate synthesis of four-bar linkages (D)..... 859
- DEL BUONO, A. J.**
In-plane bending properties of welding elbows..... 161
- DE LORENZO, OTTO**
Bagasse-burning in the Mexican sugar industry..... 549
- DEMING, N. R.**
Accuracy and results of steam-consumption tests on medium steam turbine-generator sets (D)..... 1366
- DENNIS, W. R.**
Suppression of burner oscillations by acoustical dampers..... 875
- DEZURAY, E. A.**
Suppression of burner oscillations by acoustical dampers (D)..... 881
- DICK, I. B.**
Action of boiler water on steel—attack by bonded oxygen (D)..... 430
- DIELECTRICS.** See ELECTRICAL INSULATION
- DIESEL ENGINES.** See also OIL FUEL
- DIETZ, A. G. H.**
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study..... 177
- DISPERSIONS.** See METAL CREEP
- DOLAN, W. A., JR.**
British naval gas turbines (D)..... 587
- DONOVAN, W. F.**
Through-flow in concentric and eccentric annuli of fine clearance with and without relative motion of the boundaries... 1291
- DORN, J. E.**
Effect of dispersions on creep properties of aluminum-copper alloys..... 57
- DOVE, RICHARD**
Experimental technique for predicting the dynamic behavior of rubber..... 975
- DOWNS, J. B. T.**
Application of statistics to simple fixed-gage design (D)..... 955
- DRAKE, W. V.**
Planning for efficient use of manpower... 354
- DRAWING.** See METAL DRAWING
- DRILLING.** See METAL CUTTING
- DRILLS**
Influence of tap-drill size and length of engagement upon the strength of tapped holes..... 897
- DRYING**
Heat and mass transfer in spray drying... 1377
- DUBOIS, G. B.**
The short bearing approximation for plain journal bearings..... 1173
- DUCTS**
A note on limiting laminar Nusselt number in ducts with constant temperature gradient by analogy to thin-plate theory..... 625
- DUNKLE, R. V.**
Total normal emissivity measurements on aircraft materials between 100 and 800 F..... 1011

DUST COLLECTORS. *See* ELECTRICAL PRECIPITATORS

- DYNAMICS**
Development of a miniature electro-hydraulic actuator..... 1077
Dynamics in the inlet system of a four-stroke single-cylinder engine..... 1133

- DYNAMOMETERS.** *See also* MACHINE TOOLS
Application of high-speed strain-gage torque meter to turbomachinery research..... 597

E

ECONOMICS. *See* MANAGEMENT, POWER PLANTS—STEAM, STEAM TURBINES

- EHRET, A. J.**
Free-piston-and-turbine compound engine—a cycle analysis (D)..... 207

- EICHENBERGER, H. P.**
Visualization studies of secondary flows with applications to turbomachines (D)..... 262

- ELASTICITY**
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping..... 151
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study..... 177

- ELECTRIC ANALOGY**
Refrigerating-plant performance characteristics by electrical-analog analysis..... 543

- ELECTRICAL INSULATION**
Dielectric breakdown properties of thermosetting laminates..... 701

- ELECTRICAL PRECIPITATORS**
Magnetic-impulse rapper system for electrical precipitators..... 11

- ELLIS, A. T.**
On the mechanism of cavitation damage..... 1055

- EMISSION. *See* HEAT TRANSFER, INSTRUMENTS—TEMPERATURE, HIGH-TEMPERATURE MATERIALS**

- EMMONS, H. W.**
Compressor surge and stall propagation..... 455

- ENGINES—FREE-PISTON**
Free-piston-and-turbine compound engine—a cycle analysis..... 197

- ENGINES—INTERNAL-COMBUSTION**
Dynamics in the inlet system of a four-stroke single-cylinder engine..... 1133

- EATCOURT, V. F.**
Manpower and other factors affecting operating costs in steam generating stations..... 343

- ETEMAD, G. A.**
Free-convection heat transfer from a rotating horizontal cylinder to ambient air with interferometric study of flow..... 1283

- EVAPORATION. *See also* DRYING**
Kinetic theory of evaporation rates of liquids..... 211

- EXTRUSION. *See* METAL EXTRUSION**

F

- FAULKNER, J. C.**
Consolidated Edison looks at the manpower situation..... 353

- FATIGUE OF MATERIALS. *See also* METAL FATIGUE**
Safe stress range for deformation due to fatigue..... 631

- FEEDWATER TREATMENT**
Action of boiler water on steel—Attack by bonded oxygen..... 423

- Experimental boiler studies of the breakdown of amines..... 449
Hydrazine for boiler-feedwater treatment..... 869

- FELLINGER, ROBERT C.**
Determination of the thermal conductivity of molten lithium..... 97

- FERRING, LEIF**
Machinability research with J&L tool dynamometer on titanium 150A..... 65

- FINNEGAN, T. J.**
Action of boiler water on steel—attack by bonded oxygen (D)..... 431
Corrosion of steel in boilers—attack by dissolved oxygen (D)..... 441

- FINNIE, IAIN**
Shear stress in metal cutting..... 115

- FISCHER, F. K.**
Novel cooling method for gas turbines (D)..... 194

- FLAMES. *See* BURNERS, COMBUSTION, VIBRATION**

- FLOW OF FLUIDS. *See also* HYDRODYNAMICS**

- Approximate solution of compressible turbulent boundary-layer development and convective heat transfer in convergent-divergent nozzles..... 1235
Compressor surge and stall propagation..... 455

- Dynamics in the inlet system of a four-stroke single-cylinder engine..... 1133

- Experimental determination of the thermal-entrance length for the flow of water and of oil in circular pipes..... 1211

- Fanning friction factors for air flow at low absolute pressures in cylindrical pipes..... 683

- Free-convection heat transfer from a rotating horizontal cylinder to ambient air with interferometric study of flow..... 1283

- Graphical representation of the frictional losses in commercial pipe of air and steam flowing turbulently at low pressure..... 675

- Heat transfer and pressure drop for viscous-turbulent flow of oil-air mixtures in a horizontal pipe..... 1257

- Heat transfer from spheres to a rarefied gas in subsonic flow on heat transfer..... 617

- Influence of curvature on heat transfer to incompressible fluids..... 1247

- A note on limiting laminar Nusselt number in ducts with constant temperature gradient by analogy to thin-plate theory..... 625

- Numerical solutions for laminar-flow heat transfer in circular tubes..... 1265

- Pulsating-flow measurement—a literature survey..... 231

- Secondary flow in axial-flow turbomachinery..... 1065

- Through-flow in concentric and eccentric annuli of fine clearance with and without relative motion of the boundaries..... 1291

- Turbulent heat transfer and friction in the entrance regions of smooth passages..... 1221

- Visualization studies of secondary flows with applications to turbomachines..... 249

- FLUID FRICTION. *See* FLOW OF FLUIDS**

- FLUID METERS**
Bibliography..... 244

- Pulsating-flow measurement—a literature survey..... 231

- Testing large steam turbines with weighing tanks..... 79

- Ultrasonic measurement of hydraulic turbine discharge..... 1037

- FLY ASH**
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases..... 279

- FOLSON, R. G.**
Performance of the periphery pump (D)..... 23

- FOWDEN, W. M. M., JR.**
British naval gas turbines (D)..... 585

- FRANK, D. S.**
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery (D)..... 934

- FRASER, J. P.**
Resistance of tubular materials to sulphide-corrosion cracking..... 817

- FRASER, W. E.**
Grinding of titanium alloys (D)..... 654

- FRECHE, J. C.**
Novel cooling method for gas turbines (D)..... 194

- FREE-PISTON. *See* ENGINES—FREE-PISTON, THERMODYNAMICS**

- FREEMAN, J. W.**
Carbon-molybdenum steel steam pipe after 100,000 hours of service..... 779

- FRESE, C. E.**
Stresses from local loadings in cylindrical pressure vessels (D)..... 814

- FREUDENSTEIN, FERDINAND**
Approximate synthesis of four-bar linkages..... 853

- FRICTION. *See also* FLOW OF FLUIDS**
Statistical nature of friction..... 981

- FRISCH, J.**
Contribution to the knowledge of pressure measurements during metal deformation..... 509

- Residual grinding stresses in hardened steel (D)..... 1096

- FRISCH (continued)**
Stresses and strains in cold-extruding 2S-O aluminum..... 1343

- FUELS. *See also* OIL FUEL**
Bagasse-burning in the Mexican sugar industry..... 549

- FUENTES, JAVIER**
The San Bartolo vertical impulse turbine..... 523

- FULTON, S. D.**
Economics of large reheat turbine-exhaust-end size selection..... 363

G

- GAGES**
Application of statistics to simple fixed-gage design..... 949

- GARDNER, A. J.**
Introduction to the thermal problems of turbojet engines for supersonic propulsion..... 715

- GAS TURBINES. *See also* HIGH-TEMPERATURE MATERIALS**

- British naval gas turbines..... 561

- Evaluation of corrosion resistance for gas-turbine-blade materials..... 985

- Free-piston-and-turbine compound engine—a cycle analysis..... 197

- Influence of some chemical and physical factors on the formation of deposits from residual fuels..... 995

- Modified residual fuel for gas turbines..... 1199

- Novel cooling method for gas turbines..... 187

- GASES**
Compressibility deviations for polar gases..... 1003

- Design of chimneys to control downwash of gases..... 1

- Numerical solutions for laminar-flow heat transfer in circular tubes..... 1265

- Stack heights required to minimize ground concentrations..... 1163

- Thermal conductivity of gases..... 1395

- Transient gas-flame temperatures in a spherical bomb..... 89

- GEARS**
Dynamic loads on spur and helical-gear teeth..... 635

- GERARD, GEORGE**
Some structural aspects of thermal flight..... 765

- GHAJ, M. L.**
Pin-fin heat-exchanger surfaces (D)..... 479

- GIEDT, W. H.**
The effect of dispersions on creep properties of aluminum-copper alloys..... 57

- GIER, J. T.**
Total normal emissivity measurements on aircraft materials between 100 and 800 F..... 1011

- GIEVER, P. M.**
Stack heights required to minimize ground concentrations (D)..... 1171

- GILBERT, W. W.**
Cutter design and application for face-milling cast iron and steel..... 1123

- GOLDMANN, KURT**
Influence of curvature on heat transfer to incompressible fluids (D)..... 1255

- GOLDSTEIN, DAVID**
Determination of the thermal conductivity of molten lithium..... 97

- GRABOWSKI, H. A.**
Corrosion of steel in boilers—Attack by dissolved oxygen..... 433

- GRANT, H. P.**
Compressor surge and stall propagation..... 455

- GRAPHICAL METHODS**
Applying bearing theory to the analysis and design of pad-type bearings..... 287

- Economics of large reheat turbine-exhaust-end size selection..... 363

- Graphical representation of the frictional losses in commercial pipe of air and steam flowing turbulently at low pressure..... 675

- New approach to metal-forming problems; experimental stress analysis for a tubular extrusion..... 515

- GRAVES, G. L., JR.**
British naval gas turbines (D)..... 586

- GREY, JERRY**
Suppression of burner oscillations by acoustical dampers (D)..... 881

- GRIFFITH, PETER**
Kinetic theory of evaporation rates of liquids (D)..... 220

GRINDING. <i>See also</i> CRUSHING AND GRINDING	
Determination of residual stresses in hardened ground steel	1099
Effect of wheel-work conformity in precision grinding	1325
Grinding of titanium alloys	645
Residual grinding stresses in hardened steel	1089
GROSSMAN, NICHOLAS	
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping (D)	158
GUARD, R. W.	
Effect of dispersions on creep properties of aluminum-copper alloys (D)	62
H	
HAER, A. A.	
British naval gas turbines (D)	585
HAHN, R. S.	
Effect of wheel-work conformity in precision grinding	1325
Grinding of titanium alloys (D)	655
Temperature distribution at the tool-chip interface in metal cutting (D)	1119
HALITSKY, JAMES	
Important considerations in the use of the wind tunnel for pollution studies of power plants	789
HALL, A. S., JR.	
Approximate synthesis of four-bar linkages (D)	860
HALL, H. J.	
A magnetic-impulse rapper system for electrical precipitators	11
HALL, N. A.	
Compressibility deviations for polar gases	1003
HAN, L. S.	
A note on limiting laminar Nusselt number in ducts with constant temperature gradient by analogy to thin-plate theory	625
HANDLEY, L. R.	
Pulsation absorbers for reciprocating pumps	225
HANSEN, A. G.	
Visualization studies of secondary flows with applications to turbomachines	249
HARSHMAN, R. C.	
Hydrazine for boiler-feedwater treatment	869
HARTNETT, J. P.	
Experimental determination of the thermal-entrance length for the flow of water and of oil in circular pipes	1211
Total normal emissivity measurements on aircraft materials between 100 and 800 F (D)	1019
Turbulent heat transfer and friction in the entrance regions of smooth passages (D)	1233
HAUGHTON, C. B., JR.	
Design of power-plant tests to insure reliability of results (D)	407
Pulsation absorbers for reciprocating pumps (D)	299
HAWTHORNE, W. R.	
Compressor surge and stall propagation (D)	467
HEAD, V. P.	
Pulsating-flow measurement—a literature survey (D)	245
HEAT-EXCHANGE EQUIPMENT. <i>See also</i> COOLING SYSTEMS, HEAT TRANSFER	
Pin-fin heat-exchanger surfaces	471
HEAT TRANSFER	
Approximate solution of compressible turbulent boundary-layer development and convective heat transfer in convergent-divergent nozzles	1235
Determination of the thermal conductivity of molten lithium	97
Experimental determination of the thermal-entrance length for the flow of water and of oil in circular pipes	1211
Free-convection heat transfer from a rotating horizontal cylinder to ambient air with interferometric study of flow	1283
Heat and mass transfer in spray drying	1377
Heat transfer and pressure drop for viscous-turbulent flow of oil-air mixtures in a horizontal pipe	1257
Heat transfer from spheres to a rarefied gas in subsonic flow	617

HEAT TRANSFER (continued)	
Influence of curvature on heat transfer to incompressible fluids	1247
Interferometric study of free-convection heat transfer from enclosed isothermal surfaces	1275
Investigation of the melting of bodies due to aerodynamic heating	727
Kinetic theory of evaporation rates of liquids	211
Note on limiting laminar Nusselt number in ducts with constant temperature gradient by analogy to thin-plate theory	625
Numerical solutions for laminar-flow heat transfer in circular tubes	1265
Pin-fin heat-exchanger surfaces	471
Refrigerating-plant performance characteristics by electrical-analog analysis	543
Shear-plane temperature distribution in orthogonal cutting	1331
Temperature distribution at the tool-chip interface in metal cutting	1107
Thermal conductivity and its variability with temperature and pressure	1021
Thermal conductivity of gases	1395
Thermal design of nuclear power reactors	667
Total normal emissivity measurements on aircraft materials between 100 and 800 F	1011
Turbulent heat transfer and friction in the entrance regions of smooth passages	1221
HEINKE, F. J.	
Experience in testing large steam turbine-generators in central stations (D)	1374
HEISING, W. P.	
Impact and longitudinal wave transmission (D)	971
HELTER, F. S.	
Manpower and other factors affecting operating costs in steam generating stations (D)	361
HENDRICKSON, G. A.	
Economic determination of condenser and turbine-exhaust sizes (D)	381
HENRY, D. L.	
A theory of fatigue-damage accumulation in steel	913
HERSHEY, A. E.	
Evaluation of corrosion resistance for gas-turbine-blade materials	985
HERZIG, H. Z.	
Visualization studies of secondary flows with applications to turbomachines	249
HERR, W. B.	
Ultrasonic measurement of hydraulic turbine discharge	1037
HEWSON, E. W.	
Stack heights required to minimize ground concentrations	1163
HIBBARD, W. R., JR.	
Effect of dispersions on creep properties of aluminum-copper alloys (D)	62
HIGGINS, M. B.	
Design of vertical pressure vessels subjected to applied forces (D)	867
HIGH-ALTITUDE RESEARCH	
Human problems associated with high-speed and high-altitude flight	747
HIGH-TEMPERATURE MATERIALS	
Measurement of total emissivities of gas-turbine combustor materials	1189
HIGH-TEMPERATURE RESEARCH. <i>See also</i> PROPERTIES OF MATERIALS	
Introduction to the thermal problems of turbojet engines for supersonic propulsion	715
Problems in the design of aircraft subjected to high temperature	773
Temperature problems of equipment in high-speed aircraft	735
The thermal barrier—structures	759
HODGE, P. G., JR.	
Stresses and strains in cold-extruding 28-O aluminum (D)	1351
HODSON, PETER	
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases	279
HOFF, N. J.	
The thermal barrier—structures	759
HOLL, J. W.	
Mechanism of cavitation inception and the related scale-effects problem (D)	547
HOLM, SVEN	
Pin-fin heat-exchanger surfaces (D)	480
HOLMBERG, M. D.	
Resistance of tubular materials to sulphide-corrosion cracking (D)	822

HOLMES, R. F.	
Influence of tap-drill size and length of engagement upon the strength of tapped holes (D)	905
HORLOCK, J. H.	
Compressor surge and stall propagation (D)	467
HOWARTH, E. S.	
Stresses and strains in cold-extruding 28-O aluminum (D)	1352
HOWE, R. J.	
Design of offshore drilling structures	827
HUOE, E. C.	
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units	267
HUMAN ENGINEERING. <i>See</i> HIGH-ALTITUDE RESEARCH, PHYSIOLOGY, SAFETY ENGINEERING	
HUFFERT, M. C.	
Compressor surge and stall propagation (D)	467
HUSSEY, C. E.	
Evaluation of corrosion resistance for gas-turbine-blade materials	985
HYDRAULIC TURBINES	
The San Bartolo vertical impulse turbine	523
Ultrasonic measurement of hydraulic turbine discharge	1037
HYDRAZINE. <i>See</i> FEEDWATER TREATMENT	
HYDRODYNAMICS. <i>See also</i> FLOW OF FLUIDS	
Hydrodynamic pocket bearing	311
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads	321
Mechanism of cavitation inception and the related scale-effects problem	533
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure	33
IX. The stepped slider with adiabatic lubricant flow	1185
Performance of the periphery pump	19
Studies in lubrication—X. The complete journal bearing with circumferential oil inlet	1179
Theory of the fluid-dynamic mechanism of regenerative pumps	1303
I	
IBELE, W. E.	
Compressibility deviations for polar gases	1003
IMPACT	
Effect of pulse shape on simple systems under impulsive loading	957
Impact and longitudinal wave transmission	963
IMSE, P. J.	
Conveying equipment in cane-sugar mills (D)	506
INSTRUMENTS	
Measurement errors—classification and interpretation	409
INSTRUMENTS—OPTICAL	
Determination of residual stresses in hardened ground steel	1099
Free-convection heat transfer from a rotating horizontal cylinder to ambient air with interferometric study of flow	1283
Interferometric study of free-convection heat transfer from enclosed isothermal surfaces	1275
INSTRUMENTS—TEMPERATURE	
Dynamics of filled temperature-measuring systems	591
Measurement of total emissivities of gas-turbine combustor materials	1189
Total normal emissivity measurements on aircraft materials between 100 and 800 F	1011
INSULATION. <i>See</i> ELECTRICAL INSULATION	
INTERFEROMETERS. <i>See</i> INSTRUMENTS—OPTICAL	
IVERSEN, H. W.	
Fanning friction factors for air flow at low absolute pressures in cylindrical pipes (D)	689
Performance of the periphery pump	19
Pulsation absorbers for reciprocating pumps (D)	229
Theory of the fluid-dynamic mechanism of regenerative pumps (D)	1311

J

- JACKLIN, C.
Experimental boiler studies of the breakdown of amines..... 449
- JACOBSON, M. J.
Studies in lubrication—X. The complete journal bearing with circumferential oil inlet..... 1179
- JESSUP, J. L.
Grinding of titanium alloys (D)..... 655
- JET PROPULSION. *See* AIRPLANE ENGINES
- JOHNSON, H. A.
Heat transfer and pressure drop for viscous-turbulent flow of oil-air mixtures in a horizontal pipe..... 1257
- JOHNSON, R. M.
Accuracy and results of steam-consumption tests on medium steam turbine-generator sets (D)..... 1366
- JOHNSON, S. M.
Assembly-line balancing problem (D)..... 947
- JONASH, E. R.
Combustion-efficiency problem of the turbojet at high altitude..... 605
- JONES, C. D.
Interferometric study of free-convection heat transfer from enclosed isothermal surfaces..... 1275
- JORDAN, G. V., JR.
Separation of immiscible liquids by means of porous membranes..... 393
- JORISSEN, A. L.
Pulsating-flow measurement—a literature survey (D)..... 246

K

- KAISER, K. B.
Cutter design and application for face-milling cast iron and steel (D)..... 1130
- KAMARCK, F. M.
Piping-flexibility analysis (D)..... 145
- KARLSSON, HILMER
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases (D)..... 285
- Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units (D)..... 276
- KARNOFSKY, GEORGE
Fanning friction factors for air flow at low absolute pressures in cylindrical pipes (D)..... 690
- Graphical representation of the frictional losses in commercial pipe of air and steam flowing turbulently at low pressure (D)..... 680
- KASKAN, W. E.
High-frequency oscillations of a flame held by a bluff body..... 885
- KAUFMAN, C. E.
Action of boiler water on steel—attack by bonded oxygen..... 423
- Corrosion of steel in boilers—attack by dissolved oxygen (D)..... 442
- KAVANAU, L. L.
Heat transfer from spheres to a rarefied gas in subsonic flow..... 617
- KAWAMOTO, M.
Safe stress range for deformation due to fatigue..... 631
- KAYAN, CARL F.
Refrigerating-plant performance characteristics by electrical-analog analysis..... 543
- KAYS, W. M.
Numerical solutions for laminar-flow heat transfer in circular tubes..... 1265
- Pin-fin heat-exchanger surfaces..... 471
- KECECIOGLU, DIMITRI
Shear stress in metal cutting (D)..... 124
- KELLER, W. M.
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance..... 385
- KEMENT, G. A.
Novel cooling method for gas turbines..... 187
- KENNGOTT, R. L.
Approximate synthesis of four-bar linkages (D)..... 860
- KERMEN, R. W.
Mechanism of cavitation inception and the related scale-effects problem..... 533

- KERWIN, E. M., JR.
Suppression of burner oscillations by acoustical dampers (D)..... 882
- KESSLER, G. W.
Principles of boiler design for high steam temperatures..... 919
- KEUSCH, R. B.
Effect of supersonic flight on power-plant installation systems..... 721
- KEYES, F. G.
Thermal conductivity of gases..... 1395
- KIMBALL, D. E.
Accuracy and results of steam-consumption tests on medium steam turbine-generator sets..... 1355
- KINDERMAN, W. J.
Action of boiler water on steel—Attack by bonded oxygen (D)..... 431
- KINEMATICS
Approximate synthesis of four-bar linkages..... 853
- KIPP, E. M.
Observations on some factors affecting Timken data for EP lubricants..... 29
- KLEIN, JOHN
Numerical solutions for laminar-flow heat transfer in circular tubes (D)..... 1273
- KLINE, S. J.
Design of power-plant tests to insure reliability of results (D)..... 408
- KNAPP, ROBERT T.
Recent investigations of the mechanics of cavitation and cavitation damage..... 1045
- KNAPP, W. C.
Graphical representation of the friction losses in commercial pipe of air and steam flowing turbulently at low pressure..... 675
- KNOWLES, J. K.
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study..... 177
- KNOWLTON, P. H.
Testing large steam turbines with weighing tanks (D)..... 85
- KOWALCZYK, L. S.
Thermal conductivity and its variability with temperature and pressure..... 1021
- KRATZ, E. M.
Experience in testing large steam turbine-generators in central stations..... 1369
- KREITH, FRANK
Influence of curvature on heat transfer to incompressible fluids..... 1247

L

- LAIR, W. M.
Dielectric breakdown properties of thermosetting laminates (D)..... 704
- LAMINATES. *See* PLASTICS
- LANCASTER, J. H.
Turbine-blade vibration and strength (D)..... 340
- LANGER, B. F.
Working-stress criteria for nuclear power plants..... 661
- LARSON, R. F.
Kinetic theory of evaporation rates of liquids (D)..... 220
- LASSIAT, R. C.
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery (D)..... 952
- LAUPA, A.
Stresses from local loadings in cylindrical pressure vessels (D)..... 814
- LEE, R. B.
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units (D)..... 276
- LEE, S.-Y.
Development of a miniature electrohydraulic actuator..... 1077
- LEES, SIDNEY
Development of a miniature electrohydraulic actuator (D)..... 1086
- LEONARD, A. P.
Grinding capacities of cane-sugar mills (D)..... 495
- LEONE, W. C.
Interaction of friction and temperature at the chip-tool interface in metal machining (D)..... 699

- LEONHARD, F. J.
Important considerations in the use of the wind tunnel for pollution studies of power plants (D)..... 795
- LESHER, E. J.
Design of chimneys to control downwash of gases..... 1
- LETNER, H. R.
Determination of residual stresses in hardened, ground steel (D)..... 1105
- Residual grinding stresses in hardened steel..... 1089
- LEVY, S.
Experimental determination of the thermal-entrance length for the flow of water and of oil in circular pipes (D)..... 1219
- LIGHT, F. H.
Testing large steam turbines with weighing tanks (D)..... 86
- LING, F. F.
Interaction of friction and temperature at the chip-tool interface in metal machining..... 693
- LINKAGES. *See* KINEMATICS, MECHANISMS
- LIPKIS, ROBERT
Numerical solutions for laminar-flow heat transfer in circular tubes (D)..... 1272
- LIQUID SEPARATION
Separation of immiscible liquids by means of porous membranes..... 393
- LIQUIDS
Kinetic theory of evaporation rates of liquids..... 211
- LITHIUM
Determination of the thermal conductivity of molten lithium..... 97
- LITTMANN, W. E.
Residual grinding stresses in hardened steel (D)..... 1095
- LITZLER, C. A.
Latexing and hot-stretching of tire-cord fabrics with special emphasis on nylon..... 413
- LIVENGOOD, J. C.
Dynamics in the inlet system of a four-stroke single-cylinder engine..... 1133
- LOEWEN, E. G.
Interaction of friction and temperature at the chip-tool interface in metal machining (D)..... 699
- Shear-plane temperature distribution in orthogonal cutting (D)..... 1337
- Temperature distribution at the tool-chip interface in metal cutting (D)..... 1119
- LONDON, A. L.
Free-piston-and-turbine compound engine—a cycle analysis..... 197
- LOOS, H. G.
Secondary flow in axial-flow turbomachinery (D)..... 1074
- LOWREY, O. P.
Grinding of titanium alloys (D)..... 657
- LUBRICANTS AND LUBRICATION
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance..... 385
- Observations on some factors affecting Timken data for EP lubricants..... 29
- On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure..... 33
- IX. The stepped slider with adiabatic lubricant flow..... 1185
- Studies in lubrication—X. The complete journal bearing with circumferential oil inlet..... 1179
- LUCHT, F. W.
Cutter design and application for face-milling cast iron and steel (D)..... 1130
- LYPE, ERIC F.
Kinetic theory of evaporation rates of liquids..... 211

M

- MCALISTER, C. H.
Bagasse-burning in the Mexican sugar industry (D)..... 558
- MCBRIAN, RAY
Possibilities of burning lower-cost diesel fuels..... 1387
- MCCUNN, T. H.
Carbon-molybdenum steel steam pipe after 100,000 hours of service (D)..... 786

- McFarland, R. A.
Human problems associated with high-speed and high-altitude flight 747
- McGraw, J. T.
Mechanism of cavitation inception and the related scale-effects problem 533
- McGuire, W. J.
Resistance of tubular materials to sulphide-corrosion cracking (D) 823
- MACHINABILITY. *See* METAL CUTTING
- MACHINE TOOLS. *See also* METAL CUTTING, MILLING and MILLING CUTTERS
Machinability research with J&L tool dynamometer on titanium 150A 65
- MACHINING. *See* METAL CUTTING
- McLellan, C. H.
Investigation of the melting of bodies due to aerodynamic heating 727
- McMullen, J. J.
British naval gas turbines (D) 586
- MAGNETISM
Magnetic-impulse rapper system for electrical precipitators 11
- Maine, G. H.
Dielectric breakdown properties of thermosetting laminates (D) 704
- MAJORS, H., JR.
Studies in cold-drawing
Part 1. Effect of cold-drawing on steel 37
Part 2. Cold-working 2S-O aluminum 49
- MAKOWSKI, J.
Personnel and equipment cooling in supersonic airplanes 741
- MANAGEMENT
Manpower and other factors affecting operating costs in steam generating stations 343
- MANN, E. H.
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery (D) 936
- MANPOWER
Manpower and other factors affecting operating costs in steam generating stations 343
- MANUFACTURING
Assembly-line balancing problem 939
- MARCO, S. M.
A note on limiting laminar Nusselt number in ducts with constant temperature gradient by analogy to thin-plate theory 625
Theory of fatigue-damage accumulation in steel (D) 918
- MARINE ENGINEERING
British naval gas turbines 561
- MARKL, A. R. C.
In-plane bending properties of welding elbows (D) 173
Piping-flexibility analysis
Steam-piping design to minimize creep concentrations (D) 1158
- MARSHALL, W. R., JR.
Heat and mass transfer in spray drying 1377
- MASS TRANSFER. *See* DRYING
- MARSON, D. J.
Interferometric study of free-convection heat transfer from enclosed isothermal surfaces 1275
- MATERIALS HANDLING
Conveying equipment in cane-sugar mills 497
- MATHEMATICS
Impact and longitudinal wave transmission 963
- MECHANISMS
Approximate synthesis of four-bar linkages 853
- MEISSNER, H. G.
Bagasse-burning in the Mexican sugar industry (D) 556
- MELLOR, G. L., JR.
Secondary flow in axial-flow turbomachinery (D) 1075
- METAL CREEP
Carbon-molybdenum steel steam pipe after 100,000 hours of service 779
Effect of dispersions on creep properties of aluminum-copper alloys 57
Steam-piping design to minimize creep concentrations 1147
- METAL CUTTING. *See also* GRINDING
Interaction of friction and temperature at the chip-tool interface in metal machining 693
Machinability research with J&L tool dynamometer on titanium 150A 65
- METAL CUTTING (continued)
Mechanics of the simple shearing process during orthogonal machining 331
On the drilling of metals—I. Basic mechanics of the process 103
Shear-plane temperature distribution in orthogonal cutting 1331
Shear stress in metal cutting 115
Temperature distribution at the tool-chip interface in metal cutting 1107
- METAL DRAWING
Studies in cold-drawing
Part 1. Effect of cold-drawing on steel 37
Part 2. Cold-working 2S-O aluminum 49
- METAL EXTRUSION
Contribution to the knowledge of pressure measurements during metal deformation 509
New approach to metal-forming problems; experimental stress analysis for a tubular extrusion 515
Stresses and strains in cold-extruding 2S-O aluminum 1343
- METAL FAILURES
Resistance of tubular materials to sulphide-corrosion cracking 817
- METAL FATIGUE
Theory of fatigue-damage accumulation in steel 913
- METAL FORMING
New approach to metal-forming problems; experimental stress analysis for a tubular extrusion 515
- METAL TESTING
Studies in cold-drawing
Part 1. Effect of cold-drawing on steel 37
Part 2. Cold-working 2S-O aluminum 49
- METALLOGRAPHY. *See* PHOTOMICROGRAPHY
- METALS. *See also* HIGH-TEMPERATURE MATERIALS
Determination of the thermal conductivity of molten lithium 97
- METZGER, J. W.
Fanning friction factors for air flow at low absolute pressures in cylindrical pipes (D) 690
Graphical representation of the frictional losses in commercial pipe of air and steam flowing turbulently at low pressure 675
- MEYER, H. C. E.
Piping-flexibility analysis (D) 145
- MEYER, JOHN A.
Hydrodynamic pocket bearing (D) 319
- MIAO, Y. M.
Transient gas-flame temperatures in a spherical bomb 89
- MICHEL, R. E.
Development of a miniature electrohydraulic actuator (D) 1086
- MICHEL, RUDOLPH
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping 151
Steam-piping design to minimize creep concentrations (D) 1160
- MILLER, E. H.
Economic determination of condenser and turbine-exhaust sizes 373
- MILLETT, W. H.
Observations on some factors affecting Timken data for EP lubricants (D) 31
- MILLING and MILLING CUTTERS
Cutter design and application for face-milling cast iron and steel 1123
- MILNE, W. E.
Impact and longitudinal wave transmission (D) 972
- MINER, I. O.
Pulsation absorbers for reciprocating pumps (D) 230
- MIRRA, B.
Kinetic theory of evaporation rates of liquids (D) 219
- MODELS
Design of chimneys to control down-wash of gases 1
Dynamic loads on spur and helical-gear teeth 635
Investigation of the melting of bodies due to aerodynamic heating 727
- MOORE, J. R.
On the drilling of metals—I. Basic mechanics of the process (D) 112
- MORGAN, D. W. R., JR.
Economies of large reheat turbine-exhaust end-size selection 363
- MUELLER, J. A.
Residual grinding stresses in hardened steel (D) 1096
- MULLER-GIBARD, OTTO
Dynamics of filled temperature-measuring systems 591
- MUMFORD, A. R.
Action of boiler water on steel—Attack by bonded oxygen (D) 431
- MURDOCK, J. W.
Testing large steam turbines with weighing tanks (D) 86
- MURPHY, GLENN
Experimental technique for predicting the dynamic behavior of rubber 975
- MURPHY, J. J.
Steam-piping design to minimize creep concentrations (D) 1160
Stresses from local loadings in cylindrical pressure vessels (D) 814
- N
- NACHTMAN, E. S.
Studies in cold-drawing—Part 1. Effect of cold-drawing on steel (D) 47
- NEAT, F. U.
Corrosion of steel in boilers—attack by dissolved oxygen (D) 442
- NICKSON, P. T.
Approximate synthesis of four-bar linkages (D) 860
- NISHIOKA, K.
Safe stress range for deformation due to fatigue 631
- NONFERROUS METALS and ALLOYS
Effect of dispersions on creep properties of aluminum-copper alloys 57
- NOREEN, A. E.
High-frequency oscillations of a flame held by a bluff body 885
- NOZZLES
Approximate solution of compressible turbulent boundary-layer development and convective heat transfer in convergent-divergent nozzles 1235
Visualization studies of secondary flows with applications to turbomachines 249
- O
- O'BRIEN, D. G.
Development of a miniature electrohydraulic actuator (D) 1087
- OCVIRK, F. W.
The short bearing approximation for plain journal bearings 1173
- OEHRICH, J. A.
Theory of the fluid-dynamic mechanism of regenerative pumps 1303
- OGLIVIE, R. E.
Determination of residual stresses in hardened, ground steel (D) 1104
- OIL-AIR MIXTURES. *See* FLOW OF FLUIDS
- OIL ASH. *See* OIL FUEL
- OIL FUEL
Evaluation of corrosion resistance for gas-turbine-blade materials 985
Influence of some chemical and physical factors on the formation of deposits from residual fuels 995
Modified residual fuel for gas turbines 1199
Possibilities of burning lower-cost diesel fuels 1387
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units 267
- OLDENBURGER, RUFUS
Predictor control optimizes control-system performance (D) 1323
- OLSON, W. T.
Combustion-efficiency problem of the turbojet at high altitude 605
- OFFENHEIM, A. K.
Free-piston-and-turbine compound engine—a cycle analysis (D) 207
Pulsating-flow measurement—a literature survey 231
- OSCILLATIONS. *See* VIBRATION
- OSTERLE, F.
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads (D) 329
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure 33

- OSTERLE (continued)
IX. The stepped slider with adiabatic lubricant flow..... 1185
- OWENS, H. M.
Turbine-blade vibration and strength... 337
- OXFORD, C. J., JR.
Influence of tap-drill size and length of engagement upon the strength of tapped holes..... 897
- Machinability research with J&L dynamometer on titanium 150A(D).... 77
- On the drilling of metals—I. Basic mechanics of the process..... 103
- OXYGEN. See BOILER CORROSION
- OKER, M. S.
Design of chimneys to control downwash of gases (D)..... 8
- Stack heights required to minimize ground concentrations (D)..... 1171

P

- PACH, L.
Piping-flexibility analysis (D)..... 146
- PALLADINO, N. J.
Thermal design of nuclear-power reactors 667
- PARKER, J. R.
Performance of the periphery pump (D) 24
- PARKIN, B. R.
Mechanism of cavitation inception and the related scale-effects problem.... 533
- PASCHKIS, VICTOR
Determination of the thermal conductivity of molten lithium (D)..... 101
- Thermal conductivity and its variability with temperature and pressure (D)... 1034
- PEARSON, C. E.
Compressor surge and stall propagation. 455
- PENNELS, N. E.
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery 927
- PETROLEUM REFINING
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery 927
- PETROLEUM-WELL EQUIPMENT
Design of offshore drilling structures... 827
- PHOTOGRAPHY
Recent investigations of the mechanics of cavitation and cavitation damage.. 1045
- PHOTOMICROGRAPHY
On the mechanism of cavitation damage 1055
- PHYSIOLOGY
Human problems associated with high-speed and high-altitude flight..... 747
- PIERSON, T. A., 3RD.
Magnetic-impulse rapper system for electrical precipitators..... 11
- PIGMAN, G. L.
Effect of viscosity of ear-journal oils on running temperature and other characteristics of journal-bearing performance (D)..... 390
- PIKE, E. W.
Some statistical methods for evaluation of experimental results..... 401
- PLOTTER, E. C.
Use of additives for the prevention of low-temperature corrosion in oil-fired steam-generating units..... 267
- PIPE AND PIPING. See also FLOW OF FLUIDS
Bibliography..... 137
- Carbon-molybdenum steel steam pipe after 100,000 hours of service..... 779
- Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping..... 151
- Fanning friction factors for air flow at low absolute pressures in cylindrical pipes..... 683
- Piping-flexibility analysis..... 127
- PIPE BENDS
In-plane bending properties of welding elbows..... 161
- Piping-flexibility analysis..... 127
- PIPE LINES
Wind-induced vibration of a pipe-line suspension bridge, and its cure..... 797
- PIPING SYSTEMS
Steam-piping design to minimize creep concentrations..... 1147
- PITT, P. A.
British naval gas turbines (D)..... 586

- PITZER, J. C.
Dielectric breakdown properties of thermosetting laminates (D)..... 704
- PITZER, K. S.
Compressibility deviations for polar gases (D)..... 1009
- PLASTICITY
Stresses and strains in cold-extruding 2S-O aluminum..... 1343
- PLASTICS
Dielectric breakdown properties of thermosetting laminates..... 701
- Viscoelasticity of polymethyl methacrylate—an experimental and analytical study..... 177
- PLESSET, M. S.
Kinetic theory of evaporation rates of liquids (D)..... 221
- Mechanism of cavitation inception and the related scale-effects problem (D)... 541
- On the mechanism of cavitation damage. 1055
- POLLOCK, W. A.
Accuracy and results of steam-consumption tests on medium steam turbine-generator sets (D)..... 1366
- Experience in testing large steam turbine-generators in central stations (D) 1374
- Testing large steam turbines with weighing tanks..... 79
- PORTER, G. A.
Manpower and other factors affecting operating costs in steam generating stations (D)..... 361
- POTTER, J. H.
Transient gas-flame temperatures in a spherical bomb..... 89
- POWER PLANTS
Design of power-plant tests to insure reliability of results..... 405
- POWER PLANTS—NUCLEAR
Thermal design of nuclear-power reactors..... 667
- Working-stress criteria for nuclear-power plants..... 661
- POWER PLANTS—STEAM. See also PIPING SYSTEMS
Accuracy and results of steam-consumption tests on medium steam turbine-generator sets..... 1355
- Economic determination of condenser and turbine-exhaust sizes..... 373
- Economics of large reheat turbine-exhaust end-size selection..... 363
- Experience in testing large steam turbine-generators in central stations... 1369
- Important considerations in the use of the wind tunnel for pollution studies of power plants..... 789
- Manpower and other factors affecting operating costs in steam generating stations..... 343
- Thermodynamics of supercritical-pressure steam-power plants..... 705
- PRESSURE VESSELS
Design of vertical pressure vessels subjected to applied forces..... 863
- Stresses from local loadings in cylindrical pressure vessels..... 805
- Transient gas-flame temperatures in a spherical bomb..... 89
- PROPERTIES OF MATERIALS. See also GASES, HEAT TRANSFER, PIPE AND PIPING, PLASTICS
Some structural aspects of thermal flight..... 765
- PULSATIONS. See VIBRATION
- PULSES. See VIBRATION
- PUMPS
Performance of the periphery pump... 19
- Theory of the fluid-dynamic mechanism of regenerative pumps..... 1303
- PUMPS—RECIPROCATING
Pulsation absorbers for reciprocating pumps..... 225
- PUTNAM, A. A.
High-frequency oscillations of a flame held by a bluff body (D)..... 892
- Suppression of burner oscillations by acoustical dampers..... 875

Q

- QUALITY CONTROL
Application of statistics to simple fixed-gage design..... 949

R

- RABINOWICZ, E.
Statistical nature of friction..... 981
- RADIATION. See HEAT TRANSFER
- RAIMONDI, A. A.
Applying bearing theory to the analysis and design of pad-type bearings..... 287
- Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads..... 321
- RAINS, D. A.
Compressor surge and stall propagation (D)..... 468
- Visualization studies of secondary flows with applications to turbomachines (D)..... 263
- RAMSEY, R. P.
British naval gas turbines (D)..... 588
- RAPIER, A. C.
Shear-plane temperature distribution in orthogonal cutting (D)..... 1338
- REACTORS. See POWER PLANTS—NUCLEAR
- REBESEKE, J. J., JR.
Application of high-speed strain-gage torque-meter to turbomachinery research..... 597
- REESE, H. R.
Economic determination of condenser and turbine-exhaust sizes (D)..... 382
- REFRIGERATION
Refrigerating-plant performance characteristics by electrical-analog analysis. 543
- REMOTE CONTROL
Manpower and other factors affecting operating costs in steam generating stations..... 343
- RESEARCH. See HIGH-TEMPERATURE RESEARCH WIND TUNNELS
- RESHOTKO, ELI
Approximate solution of compressible turbulent boundary-layer development and convective heat transfer in convergent-divergent nozzles (D)... 1235
- RESWICK, J. B.
Dynamic loads on spur and helical-gear teeth..... 635
- RHEINGANS, W. J.
The San Bartolo vertical impulse turbine..... 523
- RIGHTMIRE, B. G.
Statistical nature of friction..... 981
- RILEY, D. H.
Planning for efficient use of manpower.. 354
- RINELLI, C. CONRAD
Conveying equipment in cane-sugar mills..... 497
- ROBERTSON, C. A.
Experience in testing large steam turbine-generators in central stations (D) 1375
- Testing large steam turbines with weighing tanks (D)..... 86
- ROBERTSON, J. M.
Mechanism of cavitation inception and the related scale-effects problem (D)... 540
- ROBINSON, C. S. L.
Piping-flexibility analysis (D)..... 147
- ROBINSON, ERNEST L.
Piping-flexibility analysis (D)..... 147
- Steam-piping design to minimize creep concentrations..... 1147
- RODABAUGH, E. C.
In-plane bending properties of welding elbows (D)..... 173
- ROHRIG, I. A.
Carbon-molybdenum steel steam pipe after 100,000 hours of service..... 779
- ROSSHEIM, D. B.
Piping-flexibility analysis (D)..... 147
- ROTHERMICH, E. F.
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases (D)..... 285
- RUBBER
Experimental technique for predicting the dynamic behavior of rubber..... 975
- RUBBER TIRES
Latexing and hot-stretching of tire-cord fabrics with special emphasis on nylon 413
- RUSH, A. I.
Carbon-molybdenum steel steam pipe after 100,000 hours of service..... 779

S

- SAFETY ENGINEERING**
Human problems associated with high-speed and high-altitude flight..... 747
- SAIBEL, EDWARD**
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads (D)..... 329
Interaction of friction and temperature at the chip-tool interface in metal machining..... 693
On the solution of the Reynolds equation for slider-bearing lubrication—VIII. The optimum slider profile for viscosity a function of the pressure..... 33
IX. The stepped slider with adiabatic lubricant flow..... 1185
Studies in lubrication—X. The complete journal bearing with circumferential oil inlet..... 1179
- SALVESON, M. E.**
Assembly-line balancing problem..... 939
- SAMANS, W.**
Design of vertical pressure vessels subjected to applied forces (D)..... 867
- SANDERS, D. G.**
Modified residual fuel for gas turbines.. 1199
- SANTALO, M. A.**
A theory of the fluid-dynamic mechanism of regenerative pumps..... 1303
- SAWYER, W. T.**
British naval gas turbines (D)..... 587
- SCHARNBERG, L. N.**
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery (D)..... 936
- SCHNARRENBERGER, W. R.**
Action of boiler water on steel—Attack by bonded oxygen..... 423
- SCHULTZ-GRUNOW, F.**
Pulsating-flow measurement—a literature survey (D)..... 247
- SCREW THREADS**
Influence of tap-drill size and length of engagement upon the strength of tapped holes..... 897
- SELLARS, JOHN**
Numerical solutions for laminar-flow heat transfer in circular tubes (D).... 1273
- SENOO, YASUTOSHI**
A theory of the fluid-dynamic mechanism of regenerative pumps (D)..... 1312
- SEPARATORS.** See LIQUID SEPARATION
- SERVOMECHANISMS**
Development of a miniature electrohydraulic actuator..... 1077
- SHAFFER, BERNARD W.**
Mechanics of the simple shearing process during orthogonal machining..... 331
- SHALLENBERG, L. W.**
British naval gas turbines (D)..... 585
- SHAW, MILTON C.**
Grinding of titanium alloys..... 645
On the drilling of metals—I. Basic mechanics of the process (D)..... 112
Shear stress in metal cutting..... 115
- SHEAFFER, E. F.**
Piping-flexibility analysis (D)..... 147
- SHEAR.** See METAL CUTTING, STRESSES AND STRAINS
- SHEAREE, J. L.**
Development of a miniature electrohydraulic actuator..... 1077
- SHELLS.** See PRESSURE VESSELS
- SHERBY, O. D.**
Effect of dispersions on creep properties of aluminum-copper alloys..... 57
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study (D)..... 185
- SHERLOCK, R. H.**
Design of chimneys to control downwash of gases..... 1
- SHIP STABILIZATION**
Design of offshore drilling structures... 827
- SIDUN, A.**
Economic determination of condenser and turbine-exhaust sizes..... 373
- SIEKMANN, H. J.**
Machinability research with J&L tool dynamometer on titanium 150A (D).... 77
- SILBERMAN, EDWARD**
Visualization studies of secondary flows with applications to turbomachines (D)..... 263
- SILVA, L. M.**
Predictor control optimizes control-system performance..... 1317
- SINNOTT, M. J.**
Determination of residual stresses in hardened, ground steel..... 1099
- SINNOTT, R. J.**
Carbon-molybdenum steel steam pipe after 100,000 hours of service..... 779
- SKOW, N. A.**
Dielectric breakdown properties of thermosetting laminates..... 701
- SMITH, D. N.**
Machinability research with J&L tool dynamometer on titanium 150A..... 65
- SMITH, E. A. L.**
Impact and longitudinal wave transmission..... 963
- SMITH, J. F. DOWNIE**
Determination of the thermal conductivity of molten lithium (D)..... 101
- SMITH, L. H., JR.**
Secondary flow in axial-flow turbomachinery..... 1065
Visualization studies of secondary flows with applications to turbomachines (D)..... 264
- SMITH, O. J. M.**
Predictor control optimizes control-system performance (D)..... 1323
- SMOKE.** See CHIMNEYS
- SMYTH, R. A.**
Steam-piping design to minimize creep concentrations (D)..... 1160
- SNYDER, N. W.**
Total normal emissivity measurements on aircraft materials between 100 and 800 F..... 1011
- SOIL MECHANICS**
Design of offshore drilling structures... 827
- SOLLENBERGER, R. C.**
Conveying equipment in cane-sugar mills (D)..... 506
- SPIELVOGEL, S. W.**
Steam-piping design to minimize creep concentrations (D)..... 1161
- SPORN, PHILIP**
Design of chimneys to control downwash of gases (D)..... 7
- SPRENKLE, R. E.**
Testing large steam turbines with weighing tanks (D)..... 87
- STABILITY.** See SHIP STABILIZATION, STRUCTURES
- STARKEY, W. L.**
A theory of fatigue-damage accumulation in steel (D)..... 91
- STATISTICAL METHODS.** See also QUALITY CONTROL
Design of power-plant tests to insure reliability of results..... 405
Some statistical methods for evaluation of experimental results..... 401
Statistical nature of friction..... 981
- STEAM CONDENSERS**
Economic determination of condenser and turbine-exhaust sizes..... 373
- STEAM SUPERHEATERS**
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery
Principles of boiler design for high steam temperatures..... 927
919
- STEAM TURBINES**
Accuracy and results of steam-consumption tests on medium steam-turbine-generator sets..... 1355
Economic determination of condenser and turbine-exhaust sizes..... 373
Economics of large reheat turbine-exhaust end-size selection..... 363
Experience in testing large steam turbine-generators in central stations... 1369
Testing large steam turbines with weighing tanks..... 79
Turbine-blade vibration and strength... 337
- STEEL.** See also BOILER CORROSION, METAL DRAWING
A theory of fatigue-damage accumulation in steel..... 913
- STEIGER, H. A.**
Free-piston-and-turbine compound engine—a cycle analysis (D)..... 208
- STEINBACHER, F. R.**
Problems in the design of aircraft subjected to high temperature..... 773
- STINSON, L. S.**
Fanning friction factors for air flow at low absolute pressures in cylindrical pipes..... 683
- STINSON (continued)**
Graphical representation of the frictional losses in commercial pipe of air and steam flowing turbulently at low pressure (D)..... 680
- STOCK, C. R.**
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study (D)..... 186
- STRAIN GAGES**
Application of high-speed strain-gage torque meter to turbomachinery research..... 597
Contribution to the knowledge of pressure measurements during metal deformation..... 509
In-plane bending properties of welding elbows..... 161
- STRESSES AND STRAINS.** See also GRINDING
Effect of pulse shape on simple systems under impulsive loading..... 957
New approach to metal-forming problems: experimental stress analysis for a tubular extrusion..... 515
Piping-flexibility analysis..... 127
Shear stress in metal cutting..... 115
Some structural aspects of thermal flight..... 765
Stresses and strains in cold-extruding 28-O aluminum..... 1343
Stresses from local loadings in cylindrical pressure vessels..... 805
Studies in cold-drawing
Part 1. Effect of cold-drawing on steel 37
Part 2. Cold-working 28-O aluminum 49
Viscoelasticity of polymethyl methacrylate—an experimental and analytical study..... 177
- STROM, G. H.**
Important considerations in the use of the wind tunnel for pollution studies of power plants..... 789
- STRUCTURES.** See also AIRPLANES
Design of offshore drilling structures... 827
- SUGAR INDUSTRY**
Bagasse-burning in the Mexican sugar industry..... 549
Conveying equipment in cane-sugar mills..... 497
Grinding capacities of cane-sugar mills.. 485
- SULLY, A. H.**
Measurement of total emissivities of gas-turbine combustor materials (D).... 1196
- SULZER, F. T.**
Influence of some chemical and physical factors on the formation of deposits from residual fuels..... 995
Modified residual fuel for gas turbines (D)..... 1208
- SUPERHEATERS.** See STEAM SUPERHEATERS
- SUPERSONIC FLIGHT.** See AIRPLANE ENGINEERING, AIRPLANES, HIGH-TEMPERATURE RESEARCH
- SURGE VESSELS.** See VIBRATION
- SURGES.** See VIBRATION
- SWENDEL, R. C.**
Ultrasonic measurement of hydraulic turbine discharge..... 1037
- SWIGER, W. F.**
Design of offshore drilling structures (D) 849

T

- TAKAHASHI, YASUNDO**
Dynamics of filled temperature-measuring systems (D)..... 595
- TAO, L. N.**
Through-flow in concentric and eccentric annuli of fine clearance with and without relative motion of the boundaries. 1291
- TARASOV, L. P.**
Grinding of titanium alloys (D)..... 658
- TAYLOR, C. F.**
Dynamics in the inlet system of a four-stroke single-cylinder engine..... 1133
- TAYLOR, IRVING**
Mechanism of cavitation inception and the related scale-effects problem (D)... 541
On the mechanism of cavitation damage 1064
- TEDHOLM, C. E.**
Statistical nature of friction..... 981
- TEICHMANN, O. E.**
Through-flow in concentration and eccentric annuli of fine clearance with and without relative motion of the boundaries (D)..... 1299

- TESTING. *See* PIPE BENDS, PLASTICS, POWER PLANTS, STATISTICAL METHODS, STEAM TURBINES, STRAIN GAGES
- TESTING MACHINES
Experimental technique for predicting the dynamic behavior of rubber.....
Residual grinding stresses in hardened steel.....
- TEXTILES
Latexing and hot-stretching of tire-cord fabrics with special emphasis on nylon.....
- THERMAL BARRIER. *See* HIGH-TEMPERATURE RESEARCH
- THERMAL CONDUCTIVITY. *See* GASES, HEAT TRANSFER
- THERMAL STRESSES
Working-stress criteria for nuclear-power plants.....
- THERMODYNAMICS
Free-piston-and-turbine compound engine—a cycle analysis.....
Thermodynamics of supercritical-pressure steam-power plants.....
- THICKE, R. B.
Influence of surface profile on the load capacity of thrust bearings with centrally pivoted pads (D).....
- THOMSEN, E. G.
Grinding of titanium alloys (D).....
New approach to metal-forming problems; experimental stress analysis for a tubular extrusion.....
Stresses and strains in cold-extruding 28-O aluminum.....
- TIGGES, A. J.
Influence of fine particles on corrosion of economizer and air-preheater surfaces by flue gases (D).....
- TIRES. *See* RUBBER TIRES
- TISCHLER, A. O.
High-frequency oscillations of a flame held by a bluff body (D).....
- TITANIUM
Grinding of titanium alloys.....
- TOBIN, J. C.
Determination of residual stresses in hardened, ground steel.....
- TOMALIN, P. G.
British naval gas turbines (D).....
- TORQUEMETERS. *See* DYNAMOMETERS
- TORT O, ALEJANDRO
Bagasse-burning in the Mexican sugar industry (D).....
- TRAUTMAN, W. H.
Action of boiler water on steel—Attack by bonded oxygen.....
- TRESEDER, R. S.
Resistance of tubular materials to sulphide-corrosion cracking.....
- TREWBY, G. F. A.
British naval gas turbines.....
- TRIBUS, MYRON
Numerical solutions for laminar-flow heat transfer in circular tubes (D).....
- TRIGGER, K. J.
Interaction of friction and temperature at the chip-tool interface in metal machining (D).....
Shear stress in metal cutting (D).....
Temperature distribution at the tool-chip interface in metal cutting.....
- TRISHMAN, L. E.
Resistance of tubular materials to sulphide-corrosion cracking (D).....
- TRUMAN, J. C.
High-frequency oscillations of a flame held by a bluff body (D).....
Suppression of burner oscillations by acoustical dampers (D).....
- TRUMPLER, W. E., JR.
Turbine-blade vibration and strength.....
- TSAL, D. H.
Dynamics in the inlet system of a four-stroke single-cylinder engine.....
- TSU, T. C.
Dynamics in the inlet system of a four-stroke single-cylinder engine (D).....
- TUBES
Resistance of tubular materials to sulphide-corrosion cracking.....
- TURBINES. *See also* GAS TURBINES, HYDRAULIC TURBINES, STEAM TURBINES
- TURBOJET. *See* AIRPLANE ENGINES
- TURBOMACHINERY
Application of high-speed strain-gage torquemeter to turbomachinery research.....
- TURBOMACHINERY (continued)
Secondary flow in axial-flow turbomachinery.....
Visualization studies of secondary flows with applications to turbomachines.....
- TURBULENCE. *See* FLOW OF FLUIDS
- TUTEUR, F. B.
Development of a miniature electrohydraulic actuator (D).....
- U**
- ULTRASONICS
Ultrasonic measurement of hydraulic turbine discharge.....
- UNTERBERG, WALTER
Pulsating-flow measurement—a literature survey (D).....
- UNTERMYER, SAMUEL
Determination of the thermal conductivity of molten lithium (D).....
- V**
- VALVES
Development of a miniature electrohydraulic actuator.....
- VARON, B. E.
CO boiler and fluidized-bed steam superheater on Sinclair Refining Company's new fluid unit at the Houston Refinery (D).....
- VIBRATION. *See also* WAVE MECHANICS
Compressor surge and stall propagation
Effect of pulse shape on simple systems under impulsive loading.....
High-frequency oscillations of a flame held by a bluff body.....
Pulsating-flow measurement—a literature survey.....
Pulsation absorbers for reciprocating pumps.....
Suppression of burner oscillations by acoustical dampers.....
Turbine-blade vibration and strength.....
Wind-induced vibration of a pipe-line suspension bridge, and its cure.....
- VIEREGGE, G.
Shear-plane temperature distribution in orthogonal cutting (D).....
- VISCOSITY. *See also* LUBRICATION
Effect of viscosity of car-journal oils on running temperature and other characteristics of journal-bearing performance.....
Observations on some factors affecting Timken data for EP lubricants.....
- VISSAT, P. L.
In-plane bending properties of welding elbows.....
- VOADEN, G. H.
Ultrasonic measurement of hydraulic turbine discharge (D).....
- VOLLMER, L. W.
Resistance of tubular materials to sulphide-corrosion cracking (D).....
- W**
- WAGNER, W. S.
New approach to metal-forming problems; experimental stress analysis for a tubular extrusion (D).....
- WALDORF, S. K.
Ultrasonic measurement of hydraulic turbine discharge.....
- WARE, J. R.
Possibilities of burning low-cost diesel fuels (D).....
- WAVE MECHANICS
Design of offshore drilling structures.....
Impact and longitudinal wave transmission.....
- WEAR
Machinability research with J&L tool dynamometer on titanium 150A.....
- WEBBER, A.
Determination of the thermal conductivity of molten lithium.....
- WEIGHING TANKS. *See* FLUID METERS, STEAM TURBINES
- WEIL, N. A.
Elastic constants and coefficients of thermal expansion of piping materials proposed for 1954 Code for Pressure Piping (D).....
In-plane bending properties of welding elbows (D).....
Stresses from local loadings in cylindrical pressure vessels (D).....
- WEINER, J. H.
Shear-plane temperature distribution in orthogonal cutting.....
- WEINHEIMER, C. M.
Design of chimneys to control down-wash of gases (D).....
- WHITNEY, V. L., JR.
Personnel and equipment cooling in supersonic airplanes.....
- WILCOCK, DONALD F.
Hydrodynamic pocket bearing.....
- WILDER, A. B.
Resistance of tubular materials to sulphide-corrosion cracking (D).....
- WILLIAMS, R. E.
Statistical nature of friction.....
- WILLIAMSON, G. V.
Maintenance and effect on manpower and power-production costs.....
- WILLIAMSON, J. D.
Realizing full benefits of centralized control.....
- WILSON, W. A.
Design of power-plant tests to insure reliability of results.....
Performance of the periphery pump (D).....
A theory of the fluid-dynamic mechanism of regenerative pumps.....
- WILSON, W. E.
Performance of the periphery pump (D).....
A theory of the fluid-dynamic mechanism of regenerative pumps (D).....
- WIND TUNNELS
Important considerations in the use of the wind tunnel for pollution studies of power plants.....
Investigation of the melting of bodies due to aerodynamic heating.....
- WISLICIENUS, G. F.
Secondary flow in axial-flow turbomachinery (D).....
A theory of the fluid-dynamic mechanism of regenerative pumps (D).....
- WOOD, M. D.
Compressor surge and stall propagation (D).....
- WOODMAN, G. R.
The San Bartolo vertical impulse turbine (D).....
- WOODWARD, E. R.
Corrosion of steel in boilers—Attack by dissolved oxygen (D).....
Hydrazine for boiler-feedwater treatment.....
- WOOLARD, T. L.
Pin-fin heat-exchanger surfaces (D).....
- WRIGHT, A. M.
Performance of the periphery pump (D).....
- WU, C. H.
Free-piston-and-turbine compound engine—a cycle analysis (D).....
Visualization studies of secondary flows with applications to turbomachines (D).....
- X**
- X-RAY ANALYSIS
Determination of residual stresses in hardened, ground steel.....
On the mechanism of cavitation damage.....
- Y**
- YANG, C. T.
Grinding of titanium alloys.....
- YOUNG, LOUIS
Problems in the design of aircraft subjected to high temperature.....
- YOUNG, W. E.
Evaluation of corrosion resistance for gas-turbine-blade materials.....

Transactions of the ASME

SOCIETY RECORDS

(Including Indexes to Publications for 1955)

Where You Will Find the ASME Transactions in United States and Territories	SR-89
In Other Countries	SR-91
Indexes to ASME Papers and Publications	SR-93
Regular Society Publications, 1955	SR-93
Publications Issued in 1955	SR-93
How to Find Papers Presented at 1955 ASME Meetings.	SR-93
Publications Developed by the Technical Committees	SR-93
Books and Pamphlets on Special Subjects	SR-95
Biographies	SR-96
Periodicals	SR-96
ASME Miscellaneous Papers, 1954	SR-97
Index to <i>Mechanical Engineering</i> , 1955	SR-101
Index to Transactions of the ASME, 1955	SR-127
Index to the <i>Journal of Applied Mechanics</i> , 1955	SR-136

TRANSACTIONS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

VOLUME 78

JANUARY 1956

NUMBER 1

Transactions

of The American Society of Mechanical Engineers

Published on the tenth of every month, except March, June, September, and December

OFFICERS OF THE SOCIETY:

J. W. BARKER, *President*

JOSEPH L. KOPF, *Treasurer*

C. E. DAVIES, *Secretary*

EDGAR J. KATES, *Asst. Treasurer*

COMMITTEE ON PUBLICATIONS:

OTTO DE LORENZI, *Chairman*

W. E. REASER

JOHN DE S. COUTINHO

KERR ATKINSON

B. G. A. SKROTZKI

R. A. CEDERBERG
H. N. WEINBERG *Junior Advisory Members*

GEORGE A. STETSON, *Editor*

K. W. CLENDINNING, *Managing Editor*
J. A. NORTH, *Asst. Managing Editor*

REGIONAL ADVISORY BOARD OF THE PUBLICATIONS COMMITTEE:

ROY L. PARSELL—I
A. D. BLAKE—II
C. C. FRANCK—III
FRANCIS C. SMITH—IV

H. M. CATHER—V
C. R. EARLE—VI
M. B. HOGAN—VII
LINN HELANDER—VIII

Published monthly by The American Society of Mechanical Engineers. Publication office at 20th and Northampton Streets, Easton, Pa. The editorial department is located at the headquarters of the Society, 29 West Thirty-Ninth Street, New York 18, N.Y. Cable address, "Dynamic," New York. Price \$1.50 a copy, \$12.00 annually for Transactions and the *Journal of Applied Mechanics*; to members, \$1.00 a copy, \$6.00 annually. Add \$1.50 for postage to all countries outside the United States, Canada, and Pan American Union. Changes of address must be received at Society headquarters seven weeks before they are to be effective on the mailing list. Please send old as well as new address.... By-Law: The Society shall not be responsible for statements or opinions advanced in papers or... printed in its publications (B13, Par. 4).... Entered as second-class matter March 2, 1928, at the Post Office at Easton, Pa., under the Act of August 24, 1912.... Copyrighted, 1956, by The American Society of Mechanical Engineers. Reprints from this publication may be made on condition that full credit be given the Transactions of the ASME and the author, and that date of publication be stated.

Where You Will Find the ASME Transactions

In UNITED STATES AND TERRITORIES

Alabama

Auburn.....Alabama Polytechnic Institute
Engng. Library-Ramsey Engng. Bldg.
Birmingham.....Public Library
University.....University of Alabama Library
Periodical Room

Arizona

Tucson.....University of Arizona
Mech. Engng. Dept. Library

Arkansas

Fayetteville.....University of Arkansas
College of Engng. Library

California

Berkeley.....University of California
Engng. Library
Davis.....University of California
College of Agriculture Library
Long Beach.....Public Library
Los Angeles.....Public Library-Serials Div.
University of Southern California
Engng. Library
Monterey.....U. S. Naval Academy Postgraduate School
Mech. Engng. Dept.
Oakland.....Public Library
Pasadena.....California Institute of Technology
General Library and
Mech. Engng. Dept. Library
Santa Clara.....University of Santa Clara
Varsi and Engng. Dept. Libraries
San Diego.....Public Library
San Diego State College Library
San Francisco.....Mechanics Institute
Public Library (Civic Center)
Stanford Univ.....Stanford University
Mech. Engng. Dept. Library

Colorado

Boulder.....University of Colorado
Science & Technology Section
Denver.....*Public Library
University of Denver
Serial Div. Library
Fort Collins.....Colorado A & M College Library
Golden.....Colorado School of Mines Library and
Mech. Engng. Dept. Library

Connecticut

Bridgeport.....*Burroughs Public Library
Hartford.....*Public Library, Business and Technical
Dept.
New Haven.....Public Library
Yale University
Engng. Library, Dunham Laboratory
Storrs.....University of Connecticut Library
Waterbury.....Silas Bronson Library

Delaware

Newark.....University of Delaware
Memorial Library
Wilmington.....*Wilmington Free Institute

District of Columbia

Washington.....George Washington University Library
Catholic University of America
Engng. and Math. Library
Library of Congress
National Bureau of Standards Library
Scientific Library, U. S. Patent Office

Florida

Gainesville.....University of Florida
Library, Serials Dept.
Jacksonville.....Public Library

Georgia

Atlanta.....Carnegie Public Library
Georgia Institute of Technology Library

Hawaii

Honolulu.....University of Hawaii Library

Idaho

Moscow.....University of Idaho
College of Engng. Reading Room

Illinois

Chicago.....*John Crerar Library
Illinois Institute of Technology
Mech. Engng. Dept. Library
University of Chicago
Eckhart Library
University of Illinois (Navy Pier Div.)
University Library
Evanston.....Northwestern University
Deering Library
Moline.....*Public Library
Peoria.....Public Library
Bradley University
University Library and Students'
Reading Rm.—Mech. Engng. Dept.
Springfield.....Illinois State Library
Urbana.....University of Illinois
Engng. Library and
Mech. Engng. Dept. Library

Indiana

Fort Wayne.....Public Library
Indianapolis.....Public Library
*Indiana State Library
Notre Dame.....University of Notre Dame
Engng. Library—Cushing Hall of Engng.
Terre Haute.....Rose Polytechnic Institute
University Library
West Lafayette.....Purdue University
Aero., Elec., and Engng. Science Library

Iowa

Ames.....Iowa State College
Mech. Engng. Dept. Library
Davenport.....*Public Library—Reference Dept.
Des Moines.....*Public Library
Iowa City.....State University of Iowa
Mech. Engng. Dept. Library

Kansas

Kansas City.....*Public Library, Huron Park
Lawrence.....University of Kansas
Engng. and Main Libraries
Manhattan.....Kansas State College Library and
Mech. Engng. Dept.
Wichita.....Wichita City Library

Kentucky

Lexington.....University of Kentucky
College of Engng. Library
Louisville.....Speed Scientific School of
University of Louisville

Louisiana

Baton Rouge.....Louisiana State College
Engng. Library
New Orleans.....The Howard-Tilton Memorial Library of
Tulane University
*Public Library
Ruston.....Louisiana Polytechnic Institute
Engng. Library and
Mech. Engng. Dept. Library

*Offers photoprint service.

Maine

Orono..... University of Maine Library

Maryland

Annapolis..... United States Naval Academy Library
 Baltimore..... Johns Hopkins University
 Mech. and Elec. Engrg. Dept. Library
 *Enoch Pratt Free Library
 College Park..... University of Maryland
 Engrg. Library and
 Mech. Engrg. Dept. Library

Massachusetts

Amherst..... University of Massachusetts Library
 Mech. Engrg. Dept. Library
 Boston..... Public Library
 Northeastern University
 School of Engrg. Library
 Cambridge..... Massachusetts Institute of Technology
 Periodical Dept.—Hayden Library
 Lynn..... Public Library
 New Bedford..... *Public Library
 Business and Technical Section
 Springfield..... *Springfield City Library
 Tufts College..... Tufts College Engrg. Library
 Worcester..... Public Library
 Worcester Polytechnic Institute
 Mech. Engrg. Dept. Library

Michigan

Ann Arbor..... University of Michigan
 Engrg. Library
 Detroit..... Public Library
 University of Detroit
 University Library and
 Mech. Engrg. Dept. Library
 Wayne University
 Mech. Engrg. Dept.
 East Lansing..... Michigan State College
 Engrg. Library
 Flint..... Public Library
 Grand Rapids..... *Public Library
 Business and Technology Section
 Highland Park..... McGregor Public Library
 Houghton..... Michigan College of Mining & Technology
 College Library
 Jackson..... Public Library
 Muskegon..... Hackley Public Library
 Saginaw..... Hoyt Public Library
 Sault Ste. Marie..... Michigan College of Mining and Technology
 Mech. Engrg. Dept. Library

Minnesota

Duluth..... Public Library
 Minneapolis..... *Minneapolis Public Library
 University of Minnesota
 Engrg. Library
 St. Paul..... *James Jerome Hill Reference Library

Mississippi

State College..... Mississippi State College
 General Library

Missouri

Columbia..... University of Missouri
 Engrg. Library and
 Mech. Engrg. Dept. Library
 Kansas City..... *Public Library
 Rolla..... Missouri School of Mines and Metallurgy
 Engrg. Library and
 Mech. Engrg. Dept. Library
 St. Louis..... *Public Library
 Washington University
 Engrg. Library

Montana

Bozeman..... Montana State College
 Engrg. Library

Nebraska

Lincoln..... University of Nebraska
 Love Library
 Omaha..... *Public Library

Nevada

Reno..... University of Nevada
 Mech. and Civil Engrg. Depts. Library

New Hampshire

Concord..... New Hampshire State Library
 Durham..... University of New Hampshire
 Hamilton Smith Library
 Hanover..... Dartmouth College
 Thayer School of Engrg.

New Jersey

Camden..... Public Library
 Hoboken..... Stevens Institute of Technology Library
 Newark..... Public Library
 Newark College of Engineering Library
 New Brunswick..... Rutgers University Library and
 Mech. Engrg. Dept. Library
 Paterson..... Public Library
 Princeton..... Princeton University
 School of Engrg. Library
 Trenton..... *Public Library

New Mexico

Albuquerque..... University of New Mexico
 University Library and
 Mech. Engrg. Dept. Library
 State College..... New Mexico College of Arts
 College Library and
 Mech. Engrg. Dept. Library

New York

Albany..... *N. w York State University
 Brooklyn..... Polytechnic Institute
 Spicer Library
 Pratt Institute
 Main Library
 *Brooklyn Public Library
 Science & Industry Div.
 Buffalo..... University of Buffalo
 Lockwood Memorial Library
 Buffalo and Erie County Public Library
 Ithaca..... Cornell University
 Sibley School Library
 Jamaica, L. I..... *Queens Borough Public Library
 New York..... College of the City of New York
 School of Technology Library
 Columbia University
 Egleston Library (Engr.)
 Cooper Union
 Main Library
 Engineering Societies Library
 New York University
 Engr. Library.—University Heights
 Rm. 312A, Washington Sq.
 Public Library, Fifth Ave. & 42nd St.
 Science and Technology Div.
 Potsdam..... Clarkson College of Technology Library
 Rochester..... University of Rochester
 Engrg. Library
 Schenectady..... Union College Library
 Syracuse..... Public Library
 Syracuse University
 Engr. Library and
 Mech. Engrg. Dept. Library
 Troy..... Rensselaer Polytechnic Institute Library

North Carolina

Durham..... Duke University
 College of Engrg. Library
 Raleigh..... North Carolina State College Library

North Dakota

Fargo..... North Dakota State Agricultural College
 Engrg. Library
 Grand Forks..... University of North Dakota
 Engrg. Library

Ohio

Akron..... Public Library
 University of Akron
 Engrg. Library

Ohio (continued)

- Athens.....Ohio University Library and
Mech. Engrg. Dept. Library
Cincinnati.....Public Library
University of Cincinnati
Serials Div.—General Library
Cleveland.....Case Institute of Technology
Mech. Engrg. Dept. Library
Fenn College
Mech. Engrg. Dept. Library
*Public Library
Columbus.....Ohio State University
Main Library and
Mech. Engrg. Dept. Library
Public Library
Dayton.....Engineers Club of Dayton
University of Dayton
Mech. Engrg. Dept.
Toledo.....*Public Library
University of Toledo Library
Youngstown.....Public Library

Oklahoma

- Norman.....University of Oklahoma
College of Engrg. Library
Oklahoma City...Public Library
Stillwater.....Oklahoma A & M College
Engrg. Library
Tulsa.....*Public Library
University of Tulsa Library

Oregon

- Corvallis.....Oregon State College
Engrg. & Technology Room—College
Library
Portland.....*Portland Library Association

Pennsylvania

- Allentown.....*Free Library
Bethlehem.....Lehigh University Engrg. Library
Easton.....Lafayette College Library
Erie.....Public Library
Haverford.....Haverford College
Lewisburg.....Bucknell University Library
Philadelphia.....Drexel Institute Library
*The Franklin Institute
*The Free Library
University of Pennsylvania
Towne Scientific Library
Pittsburgh.....Carnegie Institute of Technology
Mech. Engrg. Library
Carnegie Library (Schenley Park)
*Mellon Institute of Industrial Research
Library
University of Pittsburgh
Science-Technology Library and
Mech. Engrg. Dept. Library
Reading.....Public Library
Scranton.....Public Library
State College....Pennsylvania State University
Carnegie Library
Swarthmore.....Swarthmore College
Div. of Engrg. Library
Villanova.....Villanova University
Reference Room, Engrg. Library

Puerto Rico

- Mayaguez.....University of Puerto Rico

Rhode Island

- Kingston.....The University of Rhode Island
Library and Mech. Engrg. Dept.
Providence.....Brown University
Physical Science Library
Providence Engineering Society
*Public Library

South Carolina

- Clemson College..Clemson Agricultural College
Central Library
Columbia.....University of South Carolina
McKissick Memorial Library

South Dakota

- Brookings.....South Dakota State College Library
Rapid City.....South Dakota School of Mines and Tech-
nology, Mech. Engrg. Dept. Library

Tennessee

- Knoxville.....University of Tennessee
Engrg. Library
Memphis.....Goodwin Institute
Nashville.....Joint University Libraries
Engineering & Science Section

Texas

- Austin.....University of Texas
Engineering Library
Beaumont.....Lamar State College of Technology
Spindletop Engrg. Library
College Station...Texas Agricultural & Mechanical College
Engrg. Library and
Mech. Engrg. Dept. Library
Dallas.....*Public Library
Southern Methodist University Library
El Paso.....Public Library
Fort Worth.....Carnegie Public Library
Houston.....Public Library
Rice Institute Fonder Library
Lubbock.....Texas Technological College Library

Utah

- Salt Lake City...University of Utah
Engrg. & Physical Science Section, of
Main Library

Vermont

- Burlington.....University of Vermont, Billings Library
Northfield.....Norwich University
Mech. Engrg. Dept. Library

Virginia

- Blacksburg.....Virginia Polytechnic Institute Library
Lexington.....Virginia Military Institute Library
Richmond.....Virginia State Library
University.....University of Virginia
Alderman Library

Washington

- Pullman.....State College of Washington
Institute of Technology Library
Seattle.....Public Library
University of Washington
Engrg. Library
Spokane.....Public Library
Tacoma.....Public Library

West Virginia

- Morgantown.....West Virginia University Library

Wisconsin

- Madison.....University of Wisconsin Library
Milwaukee.....Marquette University
Mech. Engrg. Dept.
*Public Library

Wyoming

- Laramie.....Wyoming University Library
Mech. Engrg. Dept.

IN OTHER COUNTRIES

Argentina

- Buenos Aires....Biblioteca de la Sociedad Cientifica
Facultad de Ciencias Exactas, Fisicas y
Naturales

Australia

- Adelaide.....Public Library of Adelaide
Brisbane.....University of Queensland
Canberra.....Australian National University
Melbourne.....Public Library of Victoria
University of Melbourne

Australia (continued)

- Perth.....University of Western Australia Library
 Sydney.....Public Library of Sydney
 Public Library of New South Wales
 Sydney Technical College
 University of Sydney
 Wollongong.....Wollongong Technical College

Austria

- Vienna.....Documentation Center of Technology
 Technische Hochschule

Belgium

- Louvain.....Library, University Louvain

Brazil

- Rio de Janeiro.....Bibliotheca da Escola Polytechnica
 Secao de Permuta Internacional
 São Paulo.....Bibliotheca da Escola Polytechnica
 Centro Tecnico de Aeronautica

Canada

- Edmonton.....University of Alberta
 Hamilton.....Hamilton Public Library
 Kingston.....Queen's University
 Mech. Engrg. Dept. Library
 Montreal.....École Polytechnique
 Engineering Institute of Canada
 McGill University
 Quebec.....Faculté Des Sciences
 Saskatchewan.....University of Saskatchewan
 Toronto.....University of Toronto
 Mech. Engrg. Dept. Library
 Vancouver.....University of British Columbia
 Mech. Engrg. Dept. Library
 Winnipeg.....University of Manitoba

Chile

- Santiago.....Universidad de Chile, Facultad de Ciencias
 Fisicas y Matematicas

Cuba

- Havana.....Cuban Society of Engineers

England

- Birmingham.....Birmingham Public Libraries
 Bristol.....University of Bristol
 Cambridge.....University of Cambridge
 Coventry.....Public Library
 Hants.....Southampton University
 Leeds.....University of Leeds
 Liverpool.....Liverpool Engineering Society
 Public Library of Liverpool
 London.....City and Guild Engineering College
 Institute of Marine Engineers
 Institution of Civil Engineers
 Institution of Electrical Engineers
 Institution of Mechanical Engineers
 Iron and Steel Institution
 Junior Institution of Engineers
 Patent Office Library
 Royal Aeronautical Society
 Science Museum Library
 Manchester.....Manchester Public Libraries
 College of Technology
 University of Manchester
 Newcastle-upon-
 Tyne.....The North-East Coast Institution of Engi-
 neers and Shipbuilders
 Oxford.....Oxford University
 Sheffield.....Sheffield Public Libraries

France

- Paris.....Écoles Nationales des Arts et Metiers
 École Centrale des Arts et Manufacturers
 Soc. des Ingenieurs Civils
 The American Library

Germany

- Berlin.....Bibliothek der Technischen Hochschule
 Zeitschrift für Angewandte Mathematik
 und Mechanik

Germany (continued)

- Dusseldorf.....Verein Deutscher Ingenieure
 Bucherei des Vereines Deutscher
 Eisenhüttenleute
 Frankfurt.....Technische Zentralbibliothek
 Hamburg.....Bibliothek der Technischen Staatslehr-
 anstalten
 Hanover.....Bucherei der Technischen Hochschule
 Karlsruhe.....Bucherei der Technischen Hochschule
 Köln.....Universitäts- u. Stadtbibliothek
 Leipsic.....Stadtbibliothek
 München.....Bibliothek der Technischen Hochschule
 Bucherei des Deutschen Museums
 Stuttgart.....Bucherei der Technischen Hochschule

Holland

- Amsterdam.....Koninklyke Akademie von Wetenschappen
 Delft.....Bibliotheek Technische Hoogeschool
 The Hague.....Koninklijk Instituut van Ingenieurs
 Rotterdam.....Nationaal-Technisch-Scheepvaartkundig
 Instituut

India

- Bangalore.....Mysore Engineers Association
 Calcutta.....Bengal Engineering College
 Poona.....Poona College of Engineering
 Rangoon.....University of Rangoon

Ireland

- Belfast.....Queen's University of Belfast

Italy

- Milano.....Biblioteca R. Scuola d'Ingegneria
 Napoli.....Facoltà d'Ingegneria Università
 Rome.....Biblioteca R. Scuola d'Ingegneria
 Consiglio Nazionale delle Ricerche
 Servizio Tecnico Della Aeronautica
 Torino.....Biblioteca del Politecnico

Japan

- Tokyo.....The Japan Society of Mechanical Engineers

Mexico

- Mexico City.....Benjamin Franklin Library

New Zealand

- Christ Church.....Canterbury University College

Norway

- Oslo.....Den Polytekniske Forening

Portugal

- Lisbon.....Instituto Superior Technico

Scotland

- Glasgow.....Royal Technical College
 Mitchell Library

South Africa

- Cape Town.....University of Cape Town
 Durban.....University of Natal
 Johannesburg.....South African Institute of Mechanical
 Engineers

Sweden

- Gothenburg.....Chalmers Tekniska Institut
 Stockholm.....Kungl. Tekniska Hogskolans Bibliotek
 Svenska Teknologforeningen
 Uppsala.....University of Uppsala

Switzerland

- Zürich.....Bibliothek der Eidg. Technischen Hoch-
 schule
 International Committee of Scientific Man-
 agement
 L'École Polytechnique Fédérale

Turkey

- Istanbul.....Robert College

Wales

- Cardiff.....Cardiff Public Libraries

Indexes to ASME Papers and Publications

THIS and the following pages will serve as a guide to the current publications of the ASME.

Regular Society Publications, 1955

Mechanical Engineering, monthly (see index on page SR-101)
ASME Transactions, monthly (see index on page SR-127)
Journal of Applied Mechanics, quarterly (see index on page SR-136)
ASME Mechanical Catalog, 1956 edition.
Applied Mechanics Reviews, monthly.

Publications Issued in 1955

Books and Pamphlets

1954 ASME Transactions (bound form)
 1955 Proceedings of the Oil and Gas Power Division
 Proceedings of the Second U.S. National Congress of Applied Mechanics
 Glossary of Terms in Nuclear Science and Technology
 Problems and Control of Air Pollution
 History of the Boiler Code
 Supplement to Past Examinations for Professional Engineers
 Recommended Practices for the Design of Turbine Lubricating Systems
 Trends in Mechanical Engineering Education
 An ASME Paper

Standards and Safety Codes

1955 Addenda:
 to 1952 Low-Pressure Heating Boiler Code
 to 1952 Power Boiler Code
 to 1952 Material Specifications
 Industrial Power Trucks
 Code for Pressure Piping
 Gas Transmission & Distribution Piping Systems
 Elevators, Dumbwaiters, and Escalators
 National Plumbing Code
 Ring Joint Gaskets and Grooves for Steel Pipe
 Butt-Welding Ends
 Small Solid Rivets
 Square and Hexagon Bolts and Nuts and Lag Bolts
 System for Straight Bevel Gears
 Surface, Roughness, Waviness and Lay
 Graphical Symbols for Plumbing
 Preferred Limits and Fits for Cylindrical Parts
 Preferred Standards for the Presentation of Frequency Response Data
 Industrial Engineering Terminology
 Test Codes for:
 Evaporating Apparatus
 Feedwater Heaters
 Steam Condensing Apparatus
 Electrical Measurements for Power Circuits (Part 6, Instruments and Apparatus section)

How to Find Papers Presented at 1955 ASME Meetings

THE technical programs of the meetings of the Society and of its Professional Divisions have been published in *Mechanical Engineering* and may be located by consulting the index on pages SR-101 to SR-126. Many of these papers will be published in *Mechanical Engineering* or the Transactions (including the *Journal of Applied Mechanics*) and may be located by reference to the indexes of these publications.

Publications Developed by the Technical Committees

THE Society's technical committees, the first of which was organized many years ago and all of which have been continuously at work on codes, standards, research, and other special reports, have developed a series of publications of permanent value to the membership. The following list is presented here for record and for ready reference. This list covers the works of these committees together with dates of publications and prices. A discount of 20 per cent is allowed to ASME members on all publications except where otherwise noted.

ASME AMERICAN STANDARDS

BOLT, NUT, AND RIVET PROPORTIONS

Large Rivets (B18.4—1950), \$0.80
 Plow Bolts (B18.9—1950), \$0.55
 Round Head Bolts (B18.5—1952), \$1.00
 Slotted and Recessed Head Screws (B18.6—1947), \$1.00
 Small Solid Rivets (B18.1—1955), \$1.00
 Socket Head Cap Screws and Socket Set Screws (B18.3—1954), \$1.00
 Square and Hexagon Bolts and Nuts and Lag Bolts (B18.2—1955), \$1.25
 Track Bolts and Nuts (B18.10—1952), \$1.00
 High-Strength, High-Temperature Internal Wrenching Bolts (B18.18—1950), \$0.50

GEAR DESIGN, DIMENSIONS, AND INSPECTION

Design for Fine-Pitch Worm Gearing (B6.9—1950), \$1.50
 Fine-Pitch Straight Bevel Gears (B6.8—1950), \$1.00
 Gear Nomenclature (B6.10—1950), \$1.50
 Inspection of Fine-Pitch Gears (B6.11—1951), \$2.50
 Gear Tolerances and Inspection (B6.6—1946), \$0.80
 Letter Symbols for Gear Engineering (B6.5—1954), \$1.00
 Spur Gear Tooth Form (B6.1—1932), \$0.55
 20-Degree Involute Fine-Pitch System for Spur and Helical Gears (B6.7—1950), \$1.50
 Nomenclature for Gear Tooth Wear and Failure (B6.12—1954), \$1.50
 System for Straight Bevel Gears (B6.13—1955), \$1.00

PIPING, PIPE FITTINGS, AND THREADS

Air Gaps and Backflow Preventers in Plumbing Systems (A40.4—1942 and A40.6—1943), \$0.55
 Brass Fittings for Flared Copper Tubes (A40.2—1936), \$0.50
 Brass or Bronze Flanges and Flanged Fittings for 150 and 300 Lb (B16.24—1953), \$1.00
 Brass or Bronze Screwed Fittings for 125 Lb (B16.15—1949; reaffirmed 1952), \$0.65
 Brass or Bronze Screwed Fittings for 250 Lb (B16.17—1949; reaffirmed 1953), \$0.50
 Butt-Welding Ends (B16.25—1955), \$1.00
 Cast-Brass Solder-Joint Fittings (B16.18—1950), \$0.75

Cast-Brass Solder-Joint Drainage Fittings (B16.23—1953), \$1.00
 Cast-Iron Pipe Flanges and Flanged Fittings for 25 Lb Maximum Saturated Steam Pressure (B16b2—1931; reaffirmed 1952), \$0.50
 Cast-Iron Pipe Flanges and Flanged Fittings Class 125 (B16.1—1948), \$0.65
 Cast-Iron Pipe Flanges and Flanged Fittings Class 250 (B16b—1944; reaffirmed 1953), \$0.55
 Cast-Iron Pipe Flanges and Flanged Fittings for Refrigerant Piping, Class 300 (B16.16—1948; reaffirmed 1952), \$0.50
 Cast-Iron Pipe Flanges and Flanged Fittings for 800 Lb Maximum Hydraulic Pressure (B16b1—1931; reaffirmed 1952), \$0.50
 Cast-Iron Soil Pipe and Fittings (A40.1—1935), \$0.80
 Cast-Iron Screwed Fittings for 125 and 250 Lb Maximum Saturated Steam Pressure (B16.4—1949; reaffirmed 1953), \$0.50
 Cast-Iron Screwed Drainage Fittings (B16.12—1953), \$1.00
 Face-to-Face Dimensions of Ferrous Flanged and Welding End Valves (B16.10—1939; reaffirmed 1947), \$0.65
 Ferrous Plugs, Bushings, Lock Nuts, With Pipe Threads (B16.14—1949; reaffirmed 1953), \$0.50
 Malleable-Iron Screwed Fittings, 150 Lb (B16.3—1951), \$1.00
 Malleable-Iron Screwed Fittings, 300 Lb (B16.19—1951), \$0.75
 Nonmetallic Gaskets for Pipe Flanges (B16.21—1951), \$1.00
 Pipe Threads (B2.1—1945), \$1.50
 Ring-Joint Gaskets and Grooves for Steel Pipe Flanges (B16.20—1955), \$1.00
 Scheme for the Identification of Piping Systems (A13—1928; reaffirmed 1947), \$0.60
 Steel Pipe Flanges and Flanged Fittings for 150, 300, 400, 600, 900, 1500, and 2500 Lb Including References to Valves (B16.5—1953), \$3.00
 Stainless-Steel Pipe (B36.19—1952), \$1.00
 Steel Butt-Welding Fittings (B16.9—1951), \$0.75
 Steel-Socket Welding Fittings (B16.11—1946; reaffirmed 1952), \$0.60
 Threaded Cast-Iron Pipe for Drainage, Vent, and Waste Services (A40.5—1943), \$0.50
 Wrought-Copper and Wrought-Bronze Solder-Joint Fittings (B16.22—1951), \$0.75
 Wrought-Steel and Wrought-Iron Pipe (B36.10—1950), \$0.65

LETTER AND GRAPHICAL SYMBOLS AND CHARTS

Abbreviations for Scientific and Engineering Terms (Z10.1—1941), \$0.50
 Abbreviations for Use on Drawings (Z32.13—1950), \$1.25
 Drawings and Drafting-Room Practice (Z14.1—1946), \$1.50
 Engineering and Scientific Charts for Lantern Slides (Z15.1—1947), \$0.60
 Time Series Charts (Z15.2—1947), \$1.50
 Graphical Symbols for Welding and Instructions for Their Use (Z32.2.1—1949), \$0.50
 Graphical Symbols for Plumbing (Y32.4—1955), \$1.00
 Graphical Symbols for Pipe Fittings, Valves and Piping (Z32.2.3—1949), \$0.50
 Graphical Symbols for Heating, Ventilating, and Air Conditioning (Z32.2.4—1949), \$0.50
 Graphical Symbols for Railway Use (Z32.2.5—1950), \$0.75
 Graphical Symbols for Heat—Power Apparatus (Z32.2.6—1950), \$0.50
 Letter Symbols for Hydraulics (Z10.2—1942), \$0.50
 Letter Symbols for Mechanics of Solid Bodies (Z10.3—1948), \$0.50
 Letter Symbols for Heat and Thermodynamics (Z10.4—1943), \$0.65
 Letter Symbols for Physics (Z10.6—1948), \$1.00
 Letter Symbols for Aeronautical Sciences (Y10.7—1954), \$1.25
 Letter Symbols for Structural Analysis (Z10.8—1949), \$0.50
 Letter Symbols for Radio (Y10.9—1953), \$1.00
 Letter Symbols for Meteorology (Y10.10—1953), \$1.00
 Letter Symbols for Acoustics (Y10.11—1953), \$1.00

STANDARD—MISCELLANY

Indicating Pressure and Vacuum Gages (B40.1—1939; reaffirmed 1947 and again in 1953), \$0.50
 Preferred Thickness for Uncoated Thin Flat Metals (Under 0.250 In.) (B32.1—1952), \$1.00
 Preferred Standards for Large 3600-RPM 3-Phase 60-Cycle Condensing Steam Turbine Generators and Standard Specification Data for the Generators (1952), \$0.60
 One-Piece Metallic Piston Rings (ASME Standard No. 104—1954), \$1.00
 Operation and Flow Process Charts (ASME Standard No. 101—1947), \$0.75
 Shaft Couplings (B49.1—1947), \$0.50
 Lock Washers (B27.1—1950), \$0.75

Plain Washers (B27.2—1953), \$1.00
 Surface Roughness, Waviness, and Lay (B46.1—1955), \$1.25
 Self-Appraisal Form for Use of Industrial Plants (ASME Standard No. 102—1947), \$0.75
 Plant Layout Templates and Models (ASME Standard No. 103—1949), \$0.50
 Automatic Control Terminology (ASME Standard No. 105—1954), \$1.00
 Preferred Standards for the Presentation of Frequency Response Data (ASME Standard No. 107—1955), \$1.00
 Woodruff Keys, Keyslots, and Cutters (B17f—1930; reaffirmed 1947 and 1955), \$0.55

SMALL TOOLS AND MACHINE-TOOL ELEMENTS

Machine Tapers (B5.10—1953), \$1.00
 Milling Cutters (B5.3—1950), \$2.25
 Nomenclature for Milling Cutter Teeth (B5cl—1947), \$0.70
 Reamers (B5.14—1949), \$1.00
 Taps—Cut and Ground Threads (B5.4—1948), \$1.50
 Drill Drivers (B5.27—1951), \$0.50
 Accuracy of Engine and Tool Room Lathes (B5.16—1952), \$1.00
 Chucks and Chuck Jaws (B5.8—1954), \$1.00
 Circular and Dovetailed Forming Tool Blanks and Holding Elements (B5.7—1954), \$1.00
 Designation and Working Ranges of Grinding Machines (B5.32 and 33—1953), \$1.00
 Involute Serrations (B5.26—1950), \$1.00
 Involute Splines (B5.15—1950), \$2.00
 Involute Spline and Serration Gages and Gaging (B5.31—1953), \$1.25
 Jig Bushings (B5.6—1941; reaffirmed 1949), \$0.50
 Knurling (B5.30—1953), \$1.00
 Life Tests of Single-Point Tools (B5.19—1946; reaffirmed 1953), \$0.55
 Machine Pins (B5.20—1954), \$1.00
 Marking for Grinding Wheels (B5.17—1949; reaffirmed 1953), \$0.50
 Mounting Dimensions of Lubricating and Coolant Pumps for Machine Tools (B5.28—1952), \$1.00
 Punch and Die Sets for Two-Post, Punch Press Tools (B5.25—1950), \$0.75
 Rotating Air Cylinders and Adapters (B5.5—1954), \$1.00
 Single-Point Cutting Tools and Tool Posts (B5.22—1950), \$1.25
 Spindle Noses and Arbors for Milling Machines (B5.18—1953), \$1.00
 Spindle Noses and Adjustable Adapters for Multiple Spindle Drilling Heads (B5.11—1954), \$1.00
 Spindle Noses for Tool Room Lathes, Engine Lathes, Turret Lathes, and Automatic Lathes (B5.9—1954), \$1.75
 Straight Cut-Off Blades for Lathes and Screw Machines (B5.21—1949), \$0.50
 T-Slots, Their Bolts, Nuts, Tongues, and Cutters (B5.1—1949), \$0.50
 Twist Drills (B5.12—1950), \$0.75

SCREW THREADS AND THREADING TOOLS

Acme Screw Threads (B1.5—1952), \$2.25
 Stub Acme Screw Threads (B1.8—1952), \$1.25
 Buttress Screw Threads (B1.9—1953), \$1.50
 Fire Hose Coupling Screw Thread (B26—1947), \$0.50
 Hose Coupling Screw Threads (B33.1—1947), \$0.50
 Unified and American Screw Threads, 3rd Edition (B1.1—1949), \$3.00
 Nomenclature, Definitions and Letter Symbols for Screw Threads (B17—1949), \$0.50
 Screw Thread Gages and Gaging (B1.2—1951), \$4.00
 Preferred Limits and Fits for Cylindrical Parts (B4.1—1955), \$1.25

ASME BOILER AND PRESSURE VESSEL CODE

1952 Editions

Power Boiler Code with 1954 and 1955 Addenda, \$4.50
 Material Specifications with 1955 Addenda, \$8.50
 Boilers of Locomotives, \$1.25
 Low-Pressure Heating Boiler Code with 1954 and 1955 Addenda, \$1.25
 Miniature Boiler Code, \$1.00
 Unfired Pressure Vessel Code with 1954 Addenda, \$5.50

1953 Editions

Welding Qualifications, \$1.50

1954 Editions

Suggested Rules for Care of Power Boilers, \$3.00

1954 Addenda:

to 1952 Unfired Pressure Vessel Code, \$1.50

- to 1952 Power Boiler Code, \$1.50
- to 1952 Low Pressure Heating Boiler Code, no charge
- to 1951 API-ASME Unfired Pressure Vessel Code, no charge

1955 Addenda:

- to 1952 Power Boiler Code, \$1.00
 - to 1952 Low Pressure Heating Boiler Code, \$0.50
 - to 1952 Material Specifications, \$1.50
- Interpretations and Addenda to the ASME Boiler and Pressure Vessel Code, Subscription Price, \$7.50 Annually
- 1951 Edition API-ASME Unfired Pressure Vessel Code with 1954 Addenda, \$3.00

POWER TEST CODES AND AUXILIARY SECTIONS

TEST CODES FOR

- Centrifugal, Mixed-Flow and Axial-Flow Compressors and Exhausters (1949), \$1.50
- Centrifugal Pumps (1954), \$1.50
- Coal Pulverizers (1944), \$0.85
- Displacement Compressors, Vacuum Pumps, and Blowers (1954), \$2.00
- Dust Separating Apparatus (1941), \$0.90
- Evaporating Apparatus (1955), \$1.50
- Fans (1946), \$1.00
- Feedwater Heaters (1955), \$1.50
- Gaseous Fuels (1944), \$0.90
- Gas Producers (1928), \$0.65
- Gas Turbine Power Plants (1953), \$1.50
- Hydraulic Prime Movers (1949), with Index Method of Testing (1953), \$1.00
- Internal-Combustion Engines (1949), \$1.50
- Reciprocating Steam-Driven Displacement Pumps (1949), \$0.80
- Reciprocating Steam Engines (1949), \$0.80
- Solid Fuels (1954), \$2.50
- Stationary Steam Generating Units (1946), \$0.75
- Steam Condensing Apparatus (1955), \$2.00
- Steam Turbines (1949), \$2.00
- Appendix to Steam Turbine Test Code (1949), \$2.00

INSTRUMENTS AND APPARATUS

- General Instructions (1945), \$0.55
- Definitions and Values (1945), \$0.80
- Part 1—General Considerations (1935), \$0.50
- Part 2—Pressure Measurement
 - Chapter 1, Barometers; Chapter 6, Tables, Multipliers, and Standards (1941), \$0.75
 - Chapter 2, Static and Total Pressure, Static Holes and Tubes, and Impact Tubes, and Chapter 3, Pipes for Pressure Measurement Tube (1949), \$0.75
 - Chapter 4, Bourdon, Bellows, Diaphragm, and Deadweight Gages (1938), \$0.75
 - Chapter 5, Liquid Column Gages (1942), \$0.75
- Part 3—Temperature Measurement
 - Chapter 1, General; Chapter 5, Pyrometric Cones; Chapter 6, Liquid-in-Glass Thermometers; and Chapter 7, Bourdon-Type Tube Thermometers (1931), \$0.75
 - Chapter 2, Radiation Pyrometers (1936), \$0.65
 - Chapter 3, Thermocouple Thermometers or Pyrometers (1940), \$0.75
 - Chapter 4, Resistance Thermometers (1945), \$0.80
 - Chapter 8, Optical Pyrometers (1940), \$0.50
- Part 4—Head Measuring Apparatus (1933), \$0.50
- Part 6—Electrical Measurement for Power Circuits (1955), \$1.20
- Part 8—Measurement of Indicated Horsepower (1941), \$0.75
- Part 10—Flue and Exhaust Gas Analyses (1936), \$1.35
- Part 11—Determination of Quality of Steam (1940), \$0.55
- Part 13—Speed Measurements (1933), \$0.55
- Part 14—Linear Measurements (1936), \$0.65
- Part 15—Measurement of Surface Areas (1944), \$0.75
- Part 16—Density Determinations (1931), \$0.50
- Part 17—Determination of the Viscosity of Liquids (1931), \$0.75
- Part 20—Smoke-Density Determinations (1945), \$0.75
- Part 21—Leakage Measurements (1942), \$0.75

RESEARCH

- Viscosity of Lubricants Under Pressure (1954), \$5.00
- Bibliography on the Cutting of Metals (1945), \$6.50
- Riveted Joints—A Critical Review of the Literature Covering Their Development, With Bibliography and Abstracts of the Most Important Articles (1945), \$3.00

- Bibliography on Gas Turbines (1950), \$1.00
- Bibliography on Plasticity, Its Theory and Applications (1950), \$2.25
- Bibliography on Thermostatic Bimetals, Low-Expansion Alloys, and Their Applications (1950), \$1.00

SAFETY CODES

- Code for Pressure Piping (B31.1—1955), \$3.50
- Gas Transmission and Distribution Piping Systems (B31.1.8—1955), \$2.50
- Safety Code for Cranes, Derricks, and Hoists (B30.2—1943), \$1.80
- Safety Code for Elevators (A17.1—1955), \$3.50
- Elevator Inspectors' Manual (A17.2—1954), \$1.50
- Safety Code for Private Residence Elevators (A17.15—1953), \$1.00
- Safety Code for Conveyors, Cableways, and Related Equipment (B20—1947), \$0.90
- Safety Code for Jacks (B30.1—1943), \$0.50
- Safety Code for Mechanical Power-Transmission Apparatus (B15.1—1953), \$1.00
- Safety Code for Industrial Power Trucks (B56.1—1955), \$1.00
- Safety Code for Manlifts (A90.1—1949), \$0.55
- National Plumbing Code (A40.8—1955), \$3.50

Books and Pamphlets on Special Subjects

- An ASME Paper (1955), \$0.50
- Classified Guide to F. W. Taylor Collection (1951), \$1.00
- Creative Engineering (1944), \$0.50
- Creative Thinking (1946), \$0.50
- Definitions of Occupational Specialties in Engineering (1952), \$2.50
- Design Data and Methods (1953), \$4.00
- Diesel-Fuel Oils (1948), \$3.50
- Dynamics of Automatic Controls, \$6.00
- 1951 Proceedings of the Oil and Gas Power Division (1952), \$3.00
- 1952 Proceedings of the Oil and Gas Power Division (1952), \$3.00
- 1953 Proceedings of the Oil and Gas Power Division (1954), \$4.00
- 1954 Proceedings of the Oil and Gas Power Division (1954), \$3.00
- 1955 Proceedings of the Oil and Gas Power Division (1955), \$3.00
- General Discussion on Heat Transfer (1952), \$10.00
- Glossary of Terms in Nuclear Science and Technology (An alphabetical list of terms and their definitions used in Physics, Reactor Theory, Reactor Engineering, Chemistry, Chemical Engineering, Biophysics and Radiobiology, Instrumentation, Isotopes Separation, and Metallurgy) (1955), \$5.00
- High Pressure Measurement (1953), \$3.00
- History of the Boiler Code (1955), \$5.50
- ISA Tolerance System (1942), \$2.50
- Lead-Base Babbitt Bearings (1953), \$1.00
- Manual of Consulting Practice (1941), \$0.50
- Manual on Cutting of Metals (1952), \$10.00
- Metals Engineering-Design (1953), \$10.00
- Metals Properties (1954), \$11.00
- Reheat Turbines and Boilers (1952), \$2.00
- Oil and Gas Engine Power Cost Reports, 1952, 1953 and 1954, \$2.50 each
- Industrial Engineering Terminology (ASME Standard No. 106—1955), \$1.50
- Small Plant Management (1950), \$7.00
- Ten Years' Progress in Management, 1942-1952, \$1.50
- Gas Turbine Plant Heat Exchangers (1951), \$3.00
- Past Examinations for Professional Engineers (1950-1955), \$2.00
- Principles of Optimizing Control Systems (1951), \$2.00
- Problems and Control of Air-Pollution (1955), \$7.50
- Proceedings of the Second U. S. National Congress of Applied Mechanics (1955), \$9.00 to members and nonmembers
- Professional Guide for Junior Engineers (1949), \$1.00
- Recommended Practices for the Cleaning of Turbine and Lubricating Systems (1952), \$1.00
- Recommended Practices for the Design of Turbine Lubricating Systems (1955), \$1.00
- Screw Thread Manual (1952), \$2.50
- Symposium on Water Hammer (1933 Publication, reprinted 1949), \$3.00
- Theoretical Steam Rate Tables (1938), \$1.00
- Thermal Barrier Symposium (1954), \$4.00
- Trends in Mechanical Engineering Education (1955), \$2.00
- Unwritten Laws of Engineering (1944), \$0.50
- Example Sections for a Smoke Regulation Ordinance (1949), \$0.50

Transactions (bound), in print: 1951, 1952, 1953, 1954, \$15 each
(\$7.50 to ASME members)

Biographies

BIOGRAPHIES issued under the sponsorship of the ASME Biography Committee are as follows:

Autobiography of an Engineer, by W. Le R. Emmet, \$3.50
Scientific Blacksmith (Autobiography of Mortimer E. Cooley), \$3.75
Adventures in the Navy, in Education, Science, Engineering, and in War, by W. F. Durand, \$4.00
I Remember—Autobiography of Dexter S. Kimball, \$4.00
Autobiography of John Frits, \$3.25
Biography of Fred J. Miller, \$1.25
Frank and Lillian Gilbreth, \$5.50

Periodicals

Mechanical Engineering (subscription price included in membership dues), \$7.00 annually to nonmembers in the United States, Canada, and the Pan-American Union Countries. Elsewhere, \$8.50

Transactions of the ASME, including the *Journal of Applied Mechanics*, \$12.00 annually to nonmembers in the United States, Canada and the Pan-American Union Countries. Elsewhere, \$13.00 To ASME members in the United States, Canada, and the Pan-American Union Countries

\$4.00 for 8 issues of Transactions. Elsewhere, \$4.75

\$2.50 for 4 issues of *Journal of Applied Mechanics*

\$6.00 for both publications. Elsewhere, \$6.75.

Applied Mechanics Reviews

\$25.00 to nonmembers and \$10.00 to ASME members

Mechanical Catalog (distributed to members upon request)

ASME Miscellaneous Papers, 1954

THE papers in this list were presented at ASME meetings during 1954 but were not published in *Mechanical Engineering*, the Transactions of the ASME, or the *Journal of Applied Mechanics*. They can be consulted in the Engineering Societies Library where photostatic copies may be obtained and quotations will be given upon request.

A

ACKER, D. D., and MASCHMEYER, A. H.
Backlash considerations in gear train design. Paper No. 54-A-111.

ALBRECHT, A. B., ET AL.
How can the production engineer apply the results of metal-cutting research? A Symposium. Paper No. 54-F-34.

ALONSO, MANUEL
Successful application of standardized diesel-electric motive power to the world's railways. Paper No. 54-MEX-8.

ANDERSON, E. D., and FLAXBART, E. W.
Economics of design of heat exchangers. Paper No. 54-PET-29.

ANDERSON, R. I.
Conveyerizing a multistory building.

ANDERSON, W. J., and NEMETH, Z. N.
Materials and designs of cages for high-speed cylindrical roller bearings. Paper No. 54-LUB-12.

ARNOW, S. M.
Feedwater heaters—a user's viewpoint. Paper No. 54-A-129.

ARTESE, S. J.
Field applied linings for corrosion protection of pressure vessels in petroleum refineries.

AVILEZ, IGNACIO
The education of mechanical and electrical engineers in Mexico.

B

BABB, C. L.
Hydroelectric systems in Brazil.

BACHMAN, W. S.
Electric arc technique for stub-ending drill collars. Paper No. 54-P-21.

BAHN, GILBERT S., and KOFFER, G. WARREN
Problems in formulation of design procedures for continuous-flow combustion of hydrocarbons. Paper No. 54-SA-22.

BAINTON, G. W.
Use of the repeated hysteresis loop for the evaluation of reinforced plastic materials and structures. Paper No. 54-A-269.

BAIRD, R. C., and EBERSOLE, A. J.
A damper for wind-induced bridge-vibration experimental studies. Paper No. 54-PET-11.

BEATON, WILLIAM C., and TAXTER, PAUL A.
Economic aspects of shell-and-tube exchanger design. Paper No. 54-A-128.

BEEKLEY, W. C.
The economics of heat-exchanger design. Paper No. 54-A-179.

BEKEY, G. A., and AHLIN, J. T.
Differential analyzer study of a nonlinear hydraulic servomechanism. Paper No. 54-SA-4.

BELDECOS, N. A., and SMITH, A. K.
Comparative performance of turbine-generator units in saturated-steam cycles. Paper No. 54-SA-65.

BIGGER, TRAFFORD W.
Wasted manpower. Paper No. 54-MGT-1.

BILLAARD, P. P.
Stresses from radial loads in cylindrical pressure vessels. Paper No. 54-A-101.

BILMAN, GEORGE H.
Vibration and shock control; a design tool. Paper No. 54-A-202.

BISHOP, E. L.
How the engineering approach is solving tough safety problems in industry.

BLACK, JOHN M.
Engineering considerations in plant revamp work. Paper No. 54-A-63.

BOBIER, W. S.
Dynamic testing of jet-engine fuel controls using an engine simulator. Paper No. 54-A-136.

BODUNTHA, F. T., JR.
A technique for the rapid solution of an air-pollution equation. Paper No. 54-A-187.

BOELTER, L. M. K.
Professional engineering education. Paper No. 54-IRD-11.

BOGGS, H. D., and LONGENECKER, D. R.
Techniques developed in the testing reinforced polyester pipe. Paper No. 54-PET-14.

BOSTON, ORLAN W.
Production-engineering curriculums, content, and interest. Paper No. 54-SA-8.

BRESLOWE, J. JR.
Small steam-plant design considerations.

BRIGHT, P. N.
Structural-design problems in gas-turbine engines. Paper No. 54-A-152.

BROMBERG, G. B.
Performance operator. Paper No. 54-F-6.

BROWNING, G. V., and IPSEN, PETER G.
Evaluation of nonflammable fluids as steam-turbine lubricants. Paper No. 54-F-36.

C

CAMETTI, B.
Pumping in hermetically sealed systems. Paper No. 54-A-119.

CARR, L. H.
Development of a rubber-sealed valve for oil-well drilling. Paper No. 54-PET-15.

CARROLL, PHIL
How to sell your ideas. Paper No. 54-MGT-3.

CHANEY, L., and GOOD, C. H.
A re-evaluation of surface finish. Paper No. 54-A-192.

CICHELLI, M. T., and BRINN, M. S.
Optimum design of shell-and-tube heat exchangers. Paper No. 54-A-125.

CLAPP, A. J.
The helicopter's role in amphibious operations. Paper No. 54-A-228.

CLARK, E. H., JR.
Bottom-hole pressure surges while running pipe. Paper No. 54-PET-22.

CLARK, O. H.
Prediction of lubricating-oil viscosities at high pressures. Paper No. 54-A-39.

CLARK, R. A., and KELL, R. M.
Swelling and drying of fuel O-rings.

CLARK, SAMUEL K.
The punching of medium carbon steel. Paper No. 54-SA-35.

CLAYPOOLE, WALTER
Friction in a close-contact system. Paper No. 54-LUB-6.

COLBY, J. H.
Four years' stationary operation of marine boilers. Paper No. 54-A-219.

COLLINS, W. I.
Small and medium-sized cyclone furnace boilers. Paper No. 54-FU-3.

COREY, T. L., ET AL.
Behavior of air in the hydrostatic lubrication of loaded spherical bearings. Paper No. 54-LUB-8.

COWLES, H. R.
Design and operational aspects regarding utilization of North Dakota lignite in steam-generating units. Paper No. 54-F-2.

COYNE, THOMAS D.
Typical small and medium steam-plant designs. Paper No. 54-A-205.

CRAMER, ROBERT
Diesel plant design—influence of fuels and higher engine ratings. Paper No. 54-MEX-10.

CREDE, CHARLES E.
The role of shock-testing machines in design. Paper No. 54-SA-12.

CROSS, G. D.
How the engineering approach is solving tough safety problems in industry.

CUNNINGHAM, R. G., and SCHWEITZER, P. H.
The closed-circuit lubrication system applied to a turbojet aircraft engine. Paper No. 54-SA-1.

D

DAVALOS, E., and DE LA MACORRA, A.
Power and recovery house. Paper No. 54-MEX-12.

DAVIES, ROBERT
Hydrodynamic lubrication of a cam and a cam follower. Paper No. 54-LUB-13.

DE CORIOLIS, E. G.
High-speed heating of steel for plastic deformation.

DERINGER, W. A.
Glass coating as a corrosion barrier. Paper No. 54-PET-18.

DE TOUCHE-SKADDING, RICHARD J. H.
Mining the moon by remote control.

DE ZUBAY, E. A.
A study of flame stability based on reaction-rate theory. Paper No. 54-SA-27.

DICKMANN, J. L.
Pressure-weld technique for stub-ending drill collars.

DOAN, R. L.
Basic safety procedures in reactor operation. Paper No. 54-A-71.

DONAHUE, J. E.
Analysis of pipe systems with special expansion features. Paper No. 54-SA-70.

DOW, R. B.
An analysis of recent data on the effects of pressure and temperature on the viscosity of lubricants. Part I—paraffinic and naphthenic base oils. Paper No. 54-LUB-1.

DOWD, J. J.
Progress report: bureau of mines estimate of coking-coal reserves. Paper No. 54-FU-2.

DU BOIS, J. HARRY
Plastics material selection considerations.

DUBRUQC, R. C.
Power tools. Paper No. 54-A-176.

DUFFUS, H. B., and SANDBERG, S. W.
How the engineering approach is solving tough safety problems in industry. Subtitle: Standards for safer material-handling shins developed through co-ordinated engineering.

DWYER, O. E., SHREHAN, T. V., and WEISMAN, JOEL
Heat-transfer rates for crossflow of water through a tube bank at Reynolds numbers up to a million. Part 2: Circumferential variation of film coefficient for individual tubes. Paper No. 54-F-20.

DWYER, O. E., HORN, F. L., and WEISMAN, JOEL
Heat-transfer rates at crossflow of water through a tube bank at Reynolds numbers up to a million. Part 3: Forced convection boiling and pressure drop data. Paper No. 54-F-21.

E

EBDON, H. G.
Selection and training sales engineers.

EGG, L. R.
Cold-molded plastics.

EGGENBERGER, M. A.
Overspeed protection or reheat turbine-generators. Paper No. 54-F-26.

EGGLESTON, GLEN E., and BREMLEY, DONALD E.
Heat-exchanger selection by computation machine methods. Paper No. 54-SA-47.

ELLINGEN, WILLIAM E.
Approximate methods for selection sizing and pricing of steam surface condensers. Paper No. 54-A-127.

ELSSESSER, T. M., and CORTEN, H. T.
The influence of repeated loads on the residual stresses in elastically deformed beams. Paper No. 54-F-13.

ESCANDE, E. J.
The H. D. 32, proposed DC-3 replacement, as a result of the advantages of high aspect ratio wing.

ESTES, B. E., JR.
Market research for the new product.

EYRING, E. T., and RICH, J. O.
Land-based operation of marine boilers. Paper No. 54-A-218.

EZEKIEL, F. D.
A new type of flowmeter for compressible fluids. Paper No. 54-A-149.

F

FENCHEN, J. A.
Some home-workshop products. Paper No. 54-A-215.

FERRARI, E.
From design to prototype model.

FIELD, F. H.
Design of materials-handling equipment—the load-o-mat.

- FINA, PAUL E.**
Impact thermosetting plastics with responsibilities. Paper No. 54—A-108.
- FINNIE, IAIN, AND SHAW, M. C.**
The friction process in metal cutting. Paper No. 54—A-108.
- FLANDERS, D. F.**
Interpretation of ultrasonic tests through the use of statistical quality-control techniques. Paper No. 54—A-226.
- FLODIN, CARL R., AND HAALAND, HAROLD H.**
Some factors affecting fly-ash collector performance on large pulverized fuel-fired boilers. Paper No. 54—A-212.
- FOLSE, J. A.**
Some applications of the theory of least squares to research and development of engineering equipment. Paper No. 54—SA-11.
- FRASER, W. H.**
Model tests of the 84-in. Tracy pumps. Paper No. 54—A-225.
- FRATCHER, G. E.**
The influence of high-strength materials on the design and fabrication of layer vessels. Paper No. 54—PET-35.
- FULLEMANN, JOHN, AND KUIVINEN, T. O.**
Centrifugally scavenged two-cycle engines. Paper No. 54—A-254.
- FULLER, D. D., AND STERNLICHT, BENGO**
Preliminary investigation of minimum oil-feed rate for fluid-film conditions in journal bearings. Paper No. 54—A-107.
- FURNAS, C. C.**
Planning research programs.

G

- GAMMELL, JOHN**
Education and industry's responsibility to the engineering profession from the standpoint of industry.
- GAUDREAU, ARMAND T.**
Shall it be a crane, a conveyor, or an industrial truck? Paper No. 54—SA-33.
- GEE, L. J., AND SEBAN, R. A.**
An investigation of the effect of a step in the surface temperature on the heat transfer to a laminar boundary layer. Paper No. 54—SA-54.
- GIBBS, EDWARD H. D.**
Bulk-materials stock-piling. Paper No. 54—SA-30.
- GIBSON, W. L., AND SHELSON, W.**
An experimental and analytical investigation of a differential surge-tank installation. Paper No. 54—A-138.
- GILLE, J. C.**
Servoteaching in France with special reference to aeronautical engineers. Paper No. 54—IRD-5.
- GILLILAND, ROGER**
Electronic automatic control system as applied to the petroleum industry. Paper No. 54—PET-30.
- GIROUX, CARL H., STEPHENS, JAMES OLIVER, AND NOLTE, ROBERT J.**
A 5000-kw railway-mounted gas-turbine power plant. Paper No. 54—A-191.
- GLAUSNER, WAYNE E., AND CORTRIGHT, JACK A.**
Design features in heat-exchangers. Paper No. 54—A-62.
- GLESSNER, J. W.**
A method for analyzing the stresses in centrifugal impellers. Paper No. 54—A-167.
- GOFF, JOSEPH R., AND HARDEN, J. E.**
Operating experience with dual circulation boilers using 100 per cent make-up. Paper No. 54—A-232.
- GOHN, G. R.**
Fatigue: the problem and some solutions. Paper No. 54—A-87.
- GOODZEIT, CARL L., ROACH, ARVID E., AND HUNNICUTT, RICHARD F.**
Frictional characteristics and surface damage of thirty-nine different elemental metals in sliding contact with iron. Paper No. 54—A-53.
- GORDON, C. W.**
Air-pollution control problems with heat drying of fine coal. Paper No. 54—FU-1.
- GOWER, J. A.**
Heavy-capacity freight cars. Paper No. 54—A-173.
- GRAY, HENRY C.**
The geometry of crossed helical involute gears. Paper No. 54—F-10.
- GREBE, JOHN J., AND HANSON, ALDEN W.**
Evaluating competitive development programs.

H

- HACKSTAFF, B. W.**
General engineering in grain bulk handling. Paper No. 54—A-249.
- HAFFER, A. A., AND WILSON, W. B.**
Gas-turbine exhaust-heat recovery. Paper No. 54—A-194.
- HAINES, GEORGE F., JR., AND HEMKON, W. C. L.**
A new method for stack-dust sampling. Paper No. 54—SA-74.
- HART, JOHN J.**
Stability of umbrella-type vertical water-wheel generators. Paper No. 54—A-148.
- HARTWIG, C. H.**
Sixty-cycle induction heating of large steel sections for rolling. Paper No. 54—SA-77.
- HATCH, J. L., AND GOODBING, L. E.**
Experience with turbojet-engine lubrication systems. Paper No. 54—SA-76.
- HAUGHTON, C. B., JR., AND GORTON, R. E.**
Effect of mechanical vibration on the water flow through a 1/4-in. sharp-edged concentric ASME orifice in a 1-in. pipe. Paper No. 54—A-113.
- HEINLEN, D. J.**
Inspection procedures for the acceptance or rejection of incoming steel shipments. Paper No. 54—A-209.
- HEIPLE, D. K.**
Methods and costs in coal storage with scrapers and bulldozers. Paper No. 54—SA-32.
- HEISLER, M. P.**
Temperature charts for internal heat generation. Paper No. 54—SA-44.
- HELLMAN, STANLEY K., HABETLER, GEORGE, AND BARROV, HAROLD**
Use of numerical analysis in transient solution of two-dimensional heat-transfer problem with natural and forced convection. Paper No. 54—SA-53.
- HELMKE, E. C.**
Lubrication in the machine-tool field. Paper No. 54—F-38.
- HEMENWAY, HENRY H.**
Radiant superheater design and experience. Paper No. 54—A-225.
- HEMEON, W. C. L., AND HAINES, GEORGE F., JR.**
The magnitude of errors in stack-dust sampling. Paper No. 54—SA-73.
- HERMANN, E. C.**
Field co-ordinating organization for improving efficiency of petroleum-refinery maintenance. Paper No. 54—PET-4.
- HICKS, T. Y., AND ROHLER, G. V.**
The use of electronic digital computers in pipeline design and operation. Paper No. 54—PET-31.
- HIGGINS, M. B.**
Procedure used for selecting stress values for the ASME unfired pressure-vessel code. Paper No. 54—A-164.
- HIGGINS, STEPHEN P., JR., AND KEIM, JONATHAN R.**
A thermal sine-wave apparatus for testing industrial thermometers. Paper No. 54—SA-20.
- HINDENLANG, A. W.**
Selection of control equipment for packaged water-tube steam generators. Paper No. 54—F-29.
- HOLMES, J. RALPH**
Automotive application of air conditioning.
- HOLTON, W. C.**
A study of spreader-stoker reinjection systems. Paper No. 54—A-117.
- HONISH, J. K.**
The elastomers and the nonrigid plastics.
- HOVLAND, H.**
Adapting radiography to petroleum-industry needs. Paper No. 54—PET-17.
- HRONES, J. A.**
Role of measurement and instrumentation in engineering education. Paper No. 54—IRD-8.
- HUFFMAN, WALTER E.**
Vapor conservation measures for low-pressure lease-producing equipment. Paper No. 54—PET-26.
- HULL, T. N., JR.**
Gas-turbine bucket-operating experience and bucket and wheel-design method. Paper No. 54—A-172.

I

- IBERALL, A. S.**
Characteristics of slack diaphragms. Paper No. 54—A-195.

J

- JACKSON, R. L., AND JOHNSON, L. H.**
Design of steam-piping systems for large central-station applications. Paper No. 54—SA-69.
- JACKSON, WILLIS**
The education and training of professional engineers in the United Kingdom. Paper No. 54—IRD-1.
- JACOBSEN, LLOYD**
Engineering of vacuum filter station in cane-sugar factories. Paper No. 54—MEX-15.
- JACOBSON, E. W.**
A look ahead in pressure-vessel design in the petroleum industry. Paper No. 54—PET-9.
- JEFFRIES, R. J.**
Instrumentation problems in the university. Paper No. 54—IRD-9.
- JENIKE, A. W.**
Flow of solids in bulk-handling systems; report on the development of a quantitative method of design. Paper No. 54—SA-34.
- JENNINGS, J. K.**
The maintenance and operation of the Tacubaya diesel plant, Mexico City. Paper No. 54—MEX-20.
- JENNINGS, L. D.**
Bracing rectangular tanks. Paper No. 54—A-83.
- JOHNSON, W. G.**
Progressive transfer of skills from operator to machine. Paper No. 54—F-7.
- JONES, F. B.**
Trends in production and use of natural gas. Paper No. 54—SA-71.
- JONES, L. L., JR., AND FAX, D. F.**
Perturbation solutions for the periodic-flow thermal regenerators. Paper No. 54—A-130.
- JONES, T. V.**
Capabilities and operating costs of possible future transport airplanes. Paper No. 54—A-217.
- JUDGE, THOMAS J.**
An industrial application of a marine-type power plant. Paper No. 54—A-220.
- JUDKINS, M. F.**
Powder metallurgy—processes and applications.
- JUHASZ, DR. S. I., AND HOOPER, DR. F. C.**
Hydraulic analogy for multipass crossflow heat exchangers. Paper No. 54—A-137.

K

- KANTROWITZ, ARTHUR**
An automatic control for close clearances in rotating machinery. Paper No. 54—SA-25.
- KAZMIERSKI, E. A.**
Design and operation of fully automatic shop assembled boilers. Paper No. 54—F-30.
- KEMLER, EMORY N.**
Recent mechanical-engineering developments in petroleum production. Paper No. 54—MEX-17.
- KENNEDY, EUGENE H.**
The burning of sulphate, soda, and sulphite-waste liquors. Paper No. 54—F-32.
- KERHOF, W. P.**
Allowable membrane stresses for welded carbon-steel boilers and pressure vessels. Paper No. 54—PET-6.
- KINNARD, I. F., PRINCI, M. A., AND HANSEN, A., JR.**
Advances in null-type recorder design. Paper No. 54—IRD-12.
- KINSEY, I.**
Fiberglass reinforced plastics.
- KOCH, R. L., GLEASON, J. F., JR., AND BOSTON, W. G.**
In-situ combustion oil-recovery process—installation for field experiment in Jefferson County, Okla. Paper No. 54—PET-13.
- KOROSKIN, IRVING**
Discussion of local heat-transfer coefficients for spheres and cylinders. Paper No. 54—F-18.
- KRAUT, RALPH J.**
Organization and management of a sales engineering department. Paper No. 54—MGT-5.
- KREITH, FRANK, AND FOUST, ALAN S.**
Remarks on the mechanism and stability of surface-boiling heat transfer. Paper No. 54—A-146.
- KREUCH, PAUL C.**
Developing the sales organization.

L

- LABELLE, J. W.
The thermoplastic products.
- LACHNER, E. J.
The application of automatically controlled water-tube packaged steam generators. Paper No. 54—F-28.
- LAMB, FOSTER W.
Use of heavy trucks in industry. Paper No. 54—SA-31.
- LEDGOTT, L. A.
Terminology applied to automatic control combinations. Paper No. 54—IRD-7.
- LEER, SYDNEY
A method of estimating dynamic characteristics of physical systems. Paper No. 54—A-69.
- LETNER, H. R.
A modern perspective of the grinding process. Paper No. 54—F-4.
- LEVY, S.
Heat-conduction methods in forced-convection flow. Paper No. 54—A-142.
- LICHT, LAZAR, AND FULLER, D. D.
A preliminary investigation of an air-lubricated hydrostatic thrust bearing. Paper No. 54—LUB-18.
- LICHTENSTEIN, J., AND SPRAGUE, B. C.
Economic comparison of river and cooling-tower circulation-water systems. Paper No. 54—SA-37.
- LINDHAL, ERIC J., AND BEITLER, SAMUEL R.
Coefficients of discharge for eccentric and segmental orifices in 4-in., 6-in., 10-in., and 14-in. pipes.
- LOEBEL, F. A.
Recent developments in packaged fire-tube boilers. Paper No. 54—F-27.
- LOOFBOUROY, R. L.
Excavated underground storage for petroleum products. Paper No. 54—PET-25.
- LOONEY, ROBERT
A thermal sine-wave generator for speed of response studies. Paper No. 54—SA-28.
- LORENZINI, R. A.
The dual-circulation boiler in the industrial power plant. Paper No. 54—A-214.

M

- MCCANN, H.
Title of paper not given. Title of session: Plastics Industry.
- MCEACHRON, K. B., JR.
The first five years of professional development.
- McKONE, T. D., AND HENDRICKSON, R. L.
Gas-turbine power-plant testing. Paper No. 54—F-35.
- MACLACHLAN, J. M.
Performance of chain and traveling grate stokers burning coals mined in the Pittsburgh District of Pennsylvania. Paper No. 54—FU-4.
- MCMALL, P. E., JR., AND JANSSEN, J. E.
An electrolytic analog applied to the solution of a thermal conduction problem. Paper No. 54—SA-45.
- MAHNCKE, H. E., AND TABOR, W.
A demonstration of Bingham-type flow in greases. Paper No. 54—LUB-16.
- MALLOY, B. C., AND ALLEN, W. F., JR.
Air-preheater size selection to improve over-all steam-power-plant efficiency. Paper No. 54—SA-62.
- MANSFIELD, JUDSON H.
Designing dependability and safety into transfer machines. Paper No. 54—A-78.
- MARIN, JOSEPH, AND SHENK, ROBERT H.
Stresses and deflections in eccentrically loaded gear teeth. Paper No. 54—A-79.
- MARSHON, A. A.
Some management aspects of industrial products development. Paper No. 54—F-41.
- MARTIN, MORGAN
Handling viscous crude oils by pipe line. Paper No. 54—PET-10.
- MATLOCK, ROBERT W.
Recognizing applications for reinforced plastic. Paper No. 54—A-199.
- MEL, A. J.
Design and operation of small canned motor pumps. Paper No. 54—A-120.
- MESSINGER, D. S.
Compounding principles involved in the production of O-rings.
- MIDDLEWOOD, ROBERT W.
Lockheed C-130A transport in the air-mobility era. Paper No. 54—A-227.

- MIKULA, J. H.
Four years of natural gas in Milwaukee industry.
- MILLER, BENJAMIN
Gas-turbine process using added steam. Paper No. 54—SA-42.
- MILLER, D. R., AND COOPER, W. E.
Structural problems of a sodium-cooled nuclear reactor. Paper No. 54—SA-75.
- MILLER, EARLE C.
Thespreaderstoker in the sugar factory. Paper No. 54—MEX-5.
- MILLER, R. L.
A recent development in the measurement of the sugar supersaturation coefficient. Paper No. 54—MEX-18.
- MIMS, L. S., AND KIEBER, J. A.
A test loop for determining heat-transfer coefficients by the thermal-cyclic method. Paper No. 54—SA-48.
- MONACK, A. J.
Ceramics and their relation to organic plastics.
- MOODY, LEWIS F., AND GIBB, JOHN C.
Factors affecting oil-drain practices for diesel engines. Paper No. 54—MEX-3.
- MORTON, B. B.
Report on the protection of offshore steel structures by a metallurgical method. Paper No. 54—PET-32.
- MOYER, W. B.
Operating experience on general-electric gas turbines. Paper No. 54—A-160.
- MYER, R. T., AND DEAN, W. A.
Characteristics of heavy section aluminum alloys from large ingots.

N

- NELSEN, R.
The ASME Junior and professional development.
- NEMETH, J. G.
Fabricated plastics.
- NEUGEBAUER, F. J.
A systematic and rapid procedure of computing approximate characteristic values pertaining to bare-tube crossflow heat exchangers. Paper No. 54—SA-40.
- NEWBURG, A. H., AND SCHUSTER, E. C.
Modern pipe-lining—today and tomorrow. Paper No. 54—MEX-21.
- NIPPE, E. E., WAWROUSEK, H., AND FLEISCHMANN, W. L.
Some properties of the heat-affected zone in arc-welded Type 347 stainless steel. Paper No. 54—A-57.
- NOYER, EDWIN G., JR.
Factors influencing steam turbine-generator unit overspeed. Paper No. 54—F-25.

O

- OETKER, R.
The standardization of automatic-control terminology in Germany. Paper No. 54—IRD-6.
- OSTERLE, F., AND SAIBEL, E.
Recent advances in the hydrodynamic theory of slider-bearing lubrication; the Reynolds equation. Paper No. 54—LUB-15.

P

- PAGERREY, P. R., ST. CLAIR, C. R., AND SIDBITT, W. L.
The thermal conductivity of organic liquids. Paper No. 54—SA-55.
- PAEDES, FELIPE, AND MIZE, W. W.
Hydrogen blisters in gas-transmission lines and preventive methods. Paper No. 54—PET-27.
- PARMAKIAN, G., AND SELLERS, N. S.
Superheater metal temperature. Paper No. 54—A-181.
- PARMAKIAN, JOHN
Hydraulic-turbine design problems. Paper No. 54—A-68.
- PERCY, J. WARD
Review of high-speed heating and comparison with heat transfer obtained in conventional furnaces.
- PERCY, W. WARD
Ten years of progress in instrumentation in the steel industry. Paper No. 54—IRD-2.
- PERRY, THOMAS D.
Engineers need a hobby. Paper No. 54—A-177.

- PESSEN, D. W.
A German-English dictionary of automatic-control terms. Paper No. 54—IRD-4.
- PETRICK, ERNEST N., AND SMITH, RICHARD D.
Experimental cooling of radial flow turbines. Paper No. 54—A-245.
- PFFENNINGER, HANS
Operating experiences with gas-turbine plants in the steel industry—comparison of the gas turbine with other prime movers. Paper No. 54—SA-21.
- PICKERING, G. E.
Blow molding of plastic.
- PIGAGE, L. C., AND REIS, I. L.
The incompatibility of predetermined time systems. Paper No. 54—F-5.
- PINKUS, OSCAR
Power loss in elliptical and 3-lobe bearings. Paper No. 54—LUB-9.
- POWELL, E. M., AND GRABOWSKI, H. A.
Drum internals and high-pressure boiler design. Paper No. 54—A-242.

R

- RAIMONDI, A. A., AND BOYD, JOHN
An analysis of orifice compensated hydrostatic journal bearings. Paper No. 54—LUB-17.
- RAMSEY, ROBERT P.
Free-piston gas-turbine prime mover. Paper No. 54—PET-23.
- RANZ, WILLIAM E.
On the evaporation of a drop of volatile liquid in high-temperature surroundings. Paper No. 54—A-145.
- READ, R. B.
Co-ordinating engineering activities in a complex organization. Paper No. 54—MGT-2.
- REARICK, J. S.
Recent mechanical-engineering developments in petroleum refining. Paper No. 54—MEX-22.
- REETHOFF, GERHARD
On the dynamics of pressure-controlled hydraulic systems. Paper No. 54—SA-7.
- REIS, IRVIN L., AND TRIGGER, KENNETH J.
Production engineering—an engineering education. Paper No. 54—SA-15.
- RICHARDSON, H. M.
A mechanical engineer's view of the chemistry of organic plastics.
- RICHARDSON, L.
New applications in bulk materials handling.
- RINGLE, C. L.
Reheat turbine overspeed protection. Paper No. 54—F-31.
- RIZIKA, J. WILFORD
Droplet evaporation in a high-temperature turbulent gas system. Paper No. 54—A-141.
- Thermal lags in flowing incompressible fluid systems containing heat capacitors. Paper No. 54—SA-50.
- ROACH, A. E., GOODREIT, C. L., AND HUNNICUTT, R. P.
Scoring characteristics of thirty-eight different elemental metals on high-speed sliding contact with steel. Paper No. 54—A-61.
- ROBINSON, G. M.
Bearing material evaluation for railroad use. Paper No. 54—A-110.
- RODENBURG, C. E., AND BROWN, J. M.
Industrial boiler-plant design factors. Paper No. 54—A-116.
- ROHSENOW, W. M.
Heat transfer and temperature distribution in laminar film condensation. Paper No. 54—A-144.
- ROHSENOW, W. M., WEBBER, J. H., AND LING, A. T.
Effect of vapor velocity on laminar and turbulent film condensation. Paper No. 54—A-145.
- ROSENTHAL, D., AND FRIEDMANN, N. E.
The determination of thermal diffusivity of aluminum alloys at various temperatures by means of a moving heat source. Paper No. 54—SA-56.
- ROSS, DONALD
Turbulent flow in the entrance region of a pipe. Paper No. 54—A-89.
- RUMSEY, J. D.
Automation.
- RYLANDER, H. G., AND WIGHT, E. M.
The influence of solid particles in the oil to Babbitt, copper-lead, and aluminum bearings. Paper No. 54—F-11.

S

- SAMANS, WALTER, AND BLUMBERG, LEO
Endurance testing of expansion joints. Paper No. 54—A-103.
- SAMMONS, J. N.
The role of air cargo in modern logistics. Paper No. 54—A-276.
- SCHAIER, G. S.
Background of Boeing 707 jet transport. Paper No. 54—A-268.
- SCHUE, D. R.
Recent developments in conveyor belting.
- SCHNEIDER, B. G.
Developments in conveying equipment.
- SCOTT, H. J.
Cleveland co-operative meteorological and air-pollution program. Paper No. 54—A-166.
- SHEEHAN, T. V., SCHOMER, R. T., AND DWYER, ORRINGTON E.
Heat-transfer rates for crossflow of water through a tube bank at Reynolds up to a million. Part I. Paper No. 54—F-19.
- SIDEBOTTOM, O. M., AND CLARK, M. E.
The effect of size on the load-carrying capacity of steel beams subjected to dead loads. Paper No. 54—F-12.
- SIMMANG, CLIFFORD MAX, SAADEH, F. T., AND SHORT, BYRON E.
Heat transfer in the rotating-element air pre-heater. Paper No. 54—F-22.
- SIMMONS, W. R.
An electrical geometrical analog for two-directional steady-state heat conduction with uniform internal heat generation. Paper No. 54—SA-49.
- SIMONS, B. J., AND LYNCH, P. J.
The Convair VC-131C turboliner. Part 1 by B. J. Simons—Part 2 by P. J. Lynch. Paper No. 54—A-229.
- SOO, S. L.
A method of aerothermodynamic design of multistage reaction turbines. Paper No. 54—A-208.
- STAFFORD, PAUL M.
Rational thickness design for pressure vessels. Paper No. 54—A-84.
- STALLINGS, H. B.
The electromagnetic clutch—its operation, application, and control. Paper No. 54—F-9.
- STANKIEWICZ, E. J.
The design and comparative costs for high stacks. Paper No. 54—A-260.
- STEEN-JOHNSON, H.
Design problems and applications of high-speed turbines. Paper No. 54—PET-3.
- STENNING, A. H.
An experimental study of two-dimensional gas flow through valve-type orifices. Paper No. 54—A-45.
- STILES, S. R.
Mechanical advancements in the alkylation process. Paper No. 54—PET-33.
- STOKES, KONRAD H., AND WHITEHEAD, ROBERT C., JR.
Ambient temperature errors in a gas-filled thermal system for pneumatic-balance instruments. Paper No. 54—A-159.
- STONER, T. A., AND SIPEK, C. B.
Design of power-spur-gear trains for minimum inertia. Paper No. 54—F-8.
- SUTTER, LILLIAN, AND STRAKA, LEORA E.
Engineering developments of rubber, July, 1953, to August, 1954. Paper No. 54—A-256.
- SWANSON, F. R.
Influence of "automation" on machine-tool design. Paper No. 54—A-81.

- SYMONS, N. S.
Impact of industrial noise on the economy of industry.

T

- TALBOURDET, G. J.
A progress report on the surface endurance limits of engineering materials. Paper No. 54—LUB-14.
- TAYLOR, IRVING
Cavitation pitting by instantaneous chemical action from impacts. Paper No. 54—A-109.
- TECH, K. O.
Machine-tool automation. Paper No. 54—A-82.
- THOMAS, E. I.
The value of instrumentation to the chemical industry.
- TINKHAM, S. E.
Thermosetting plastic materials.
- TODEN, ALEXANDER A.
Power actuated flow valves for automation of lease operations. Paper No. 54—PET-24.
- TREFETHEN, LLOYD
Measurement of mean fluid temperatures. Paper No. 54—A-135.
- TRUMPLER, W. E., AND FOX, E. A.
Considerations in the mechanical design of high-temperature steam turbines. Paper No. 54—A-234.
- TUCKER, R. L.
The engineer and his civic duty.

U

- UHL, E. G.
Executive development programs for engineers.
- UPSON, F. A.
Field welding of heavy pressure vessels. Paper No. 54—PET-5.

V

- VAN BUSKIRK, A. B.
Community progress—a challenge to the engineer.
- VAN CAMP, W. M., AND ST. CLAIR, C. R.
Boiling from wires with emphasis on transition phenomena. Paper No. 54—F-33.
- VAN SICKLE, R. C.
A loading fixture for testing power circuit-breaker mechanisms. Paper No. 54—SA-18.
- VON WALD, W. A., JR.
Plastic-covered antennas reduce radio interference. Paper No. 54—A-200.

W

- WALKER, R. L., AND TAPPEMEYER, R. A.
Principles of duplex slush-pump operation. Paper No. 54—PET-16.
- WARREN, J. P.
Operating supervisor.
- WASHBURN, H. L.
Handling and dustiness characteristics of fine coal. Paper No. 54—SA-72.
- WEIL, N. A., AND PODOLAN, J. S.
The circular girder four-column space frame. Paper No. 54—PET-8.
- WELTMER, W. W.
Evolution of centrifugal-pump type from a specific speed standpoint.

- WESTPHAL, R. C., AND GLATTER, J.
The wear and friction properties of materials operated in high-temperature water. Paper No. 54—SA-13.

- WHITE, H. J.
Effect of fly-ash characteristics on collector performance. Paper No. 54—A-259.

- WHITE, J. O., AND PASMAN, J. S.
Installation and operating experience with a naval gas-turbine powered landing craft. Paper No. 54—SA-43.

- WHITNEY, L. M.
Exhaust-gas sampling of a small-scale combustor and determination of combustion efficiency. Paper No. 54—SA-61.

- WILKINS, W. B.
Molding reinforced plastics with low-cost cores. Paper No. 54—A-198.

- WILLS, ROBERT D., AND KEENAN, VERNON
A correlation analysis of machining standards. Paper No. 54—F-23.

- WILSON, F. D.
Bagasse as a fuel for steam generation. Paper No. 54—MEX-6.

- WILSON, L. A.
Problems in evaluation and maintenance of jet-engine fuel-metering accessories. Paper No. 54—A-70.

- WILSON, NEIL G.
Economics and operating procedure of crude-oil-tank mixers. Paper No. 54—PET-34.

- WILSON, WILLIAM A., SANTALO, MIGUEL A., AND OELRICH, JOHN A.
A hypothesis of the fluid-dynamic mechanism of regenerative pumps. Paper No. 54—A-59.

- Relationship of regenerative pump performance to casing geometry. Paper No. 54—A-60.

- WISMER, M.
Cast plastics.

- WOODARD, GEORGE H.
Can your company survive without new products?

- WOODBURN, JAMES
Franch sulphur mining. Paper No. 54—MEX-13.

- WOODSIDE, A. G.
Value analysis of aircraft instruments.

- WORLEY, WILLIAM SPENCER
The application of V-belt drives to slush pumps. Paper No. 54—PET-28.

- WUEST, WALTER
The influence of the shape of the cross section on the behavior of bourdon tubes. Paper No. 54—A-165.

Y

- YELLOTT, J. I., BROADLEY, P. R., AND MEYER, W. M.
Acceptance and operational tests of a 4250 HP coal-burning gas turbine—Part I: preliminary oil-fired operation. Paper No. 54—F-39. Part II: Coal-fired operation. Paper No. 54—F-40.

- YELLOTT, J. I., ET AL.
Development of pressurizing, combustion, and ash-separation equipment for a direct-fired coal-burning gas-turbine locomotive. Paper No. 54—A-201.

- YOUNG, A. J.
ASME and BSI terminologies for process control. Paper No. 54—IRD-10.

- YOUNG, R. L.
Heat transfer from a rotating plate. Paper No. 54—SA-51.